# RESEARCH IN NASA HISTORY

NASA HHR-55

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## A Guide to the NASA History Program

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Progress, far from consisting in change, depends on retentiveness....Those who cannot remember the past are condemned to repeat it.

George Santayana
*The Life of Reason* (1905)

. . . leaders of large enterprises sometimes find it difficult to relate their way of working to the experiences and needs of others. But . . . many large-scale endeavors of the past and present are open to the responsible scholar. We in NASA would welcome such research. Indeed, we feel a responsibility to give as much assistance to the inquiring scholar as possible.

James E. Webb
*Space Age Management* (1969)

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# INTRODUCTION

One of the most exciting avenues of historical inquiry for scholars working in the late twentieth century has been unraveling the evolution of one of the vital enterprises of the twentieth century, humanity's movement beyond the Earth toward the exploration and use of air and space. Understanding this fundamental shift in humanity's environment after centuries of being earthbound presents a formidable challenge. This pamphlet describes the efforts of the National Aeronautics and Space Administration to capture and record the events of its past and to make that past accessible to NASA personnel, the historical community, and researchers interested in how and why the U.S. space program came to be as well as how it carried out its missions in aeronautical research and development and the exploration of space.

*Research in NASA History* replaces *History at NASA* (1986), prepared by Sylvia D. Fries, and the *Guide to Research in NASA History*, first issued in 1976 and written by Alex Roland (2nd though 7th eds.). *Research in NASA History* describes the research opportunities and accomplishments of NASA's agencywide history program. It also offers a concise guide to the historical documentary resources available at NASA Headquarters in Washington, DC, at NASA facilities located around the country, and through the federal records systems. In addition to portions of its predecessor publications, *Research in NASA History*, contains expanded contributions by Lee D. Saegesser and other members of the NASA Headquarters History Division and by those responsible for historical documents and records at some NASA centers.

The student of modern public history, especially when that history deals with large-scale and complex organizations, confronts a labyrinthine passage through documents, organizations, politics, and the triumphs and disappointments of innumerable scientists and engineers. If this publication can ease that passage, it will have served its purpose.

Roger D. Launius, Director
NASA History Division
May 1992

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# THE NASA HISTORY PROGRAM

### Background and Purpose

First established in 1959, the NASA History Program is one of more than thirty public history functions in the federal government. It is an ongoing, long-term effort to provide a comprehensive understanding of the organization's institutional, cultural, social, political, economic, technological, and scientific development of aeronautics and space. The program resulted from an Executive Order, first issued by President Franklin D. Roosevelt and periodically reemphasized, that Federal agencies record objectively the history of their activities in order to assess policy and departmental effectiveness.

NASA created and maintains this historical program for two principal reasons: (1) Sponsorship of research in NASA-related history is one good way in which the agency responds to the provision of the National Aeronautics and Space Act of 1958 to "provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof;" and (2) Thoughtful study of NASA history can help agency managers accomplish the missions assigned to the agency. Understanding NASA's past aids in comprehending its present situation and illuminates possible future directions.

These grand strategic ideas have found tangible expression in efforts to ensure that the documentary foundation of the agency's history is captured and preserved for current and future generations, to stimulate historical research in areas of inquiry that may broaden our perceptions of the modern age of aerospace research and development, and to disseminate the results of NASA's historical documentation and research activities. The result has been a multi-level effort to preserve and disseminate historical knowledge about the agency.

The NASA History Division has built a significant collection of reference materials organized by subject for use by both the public and NASA personnel. These are used to answer specific requests for information by NASA officials and for researching and writing agency history. This Division also encourages the development of similar collections at NASA centers throughout the nation. The visitors' log at the NASA Headquarters History Division is evidence of the hundreds of persons inside and outside the agency who have used these materials in their daily work. As numerous authors have graciously acknowledged, NASA's History Program has provided the indispensable starting point for research in the history of federally-sponsored aerospace research and development. From school youngsters preparing a class report to busy NASA managers, from Congressional staffers and foreign journalists to dissertation writers, all kinds of researchers have come to rely on NASA's agencywide history program for help in their work.

The NASA History Division has also long been active in providing context and details of historical development within NASA for use by internal management in assisting with policy decision-making. These staff support activities have taken the form of answering information requests, researching and writing short historical papers on issues of significance in the agency, and preparing briefings and lectures on contemporary concerns that can be illuminated with historical information.

The NASA History Program has also emphasized as a hallmark of its program the research and writing of a wide range of scholarly works on the history of the Amer-

ican aerospace program. Funded by the agency, a large number of university and independent scholars have been able to complete and publish an impressive series of exceptional official books, monographs, and journal articles. It also fosters historical research through an annual research fellowship competition conducted by the American Historical Association. Each of these activities is described in subsequent sections of this publication.

In its first decade the NASA History Division conducted these three aspects of its mission (reference materials collection, staff support, and historical research and writing) as a balanced program. Administrator James E. Webb (1961-1968) was an active user and supporter, and other senior-level NASA managers often asked the office to provide information and context for their present-day concerns. In addition, widespread public interest in the early human space flight program led NASA to emphasize the publication of narrative histories of the Mercury, Gemini, and Apollo projects, all of which were published in the 1960s and 1970s.

Until recently, with the exception of a limited number of space science, NASA management, and unmanned project space histories, the lion's share of NASA's historical publications have focused on the human space flight program. The professional credibility of these publications has been consistently high because NASA has made good use of the NASA Advisory Council's History Advisory Committee, and because the Chief Historian has taken great care to see that manuscripts for publication received thorough "peer" and technical review to assure accuracy and objectivity.

### Independent Inquiry and NASA History

The strength and reach of the NASA History Program throughout its more than thirty year lifespan has been attributable to the established institutional commitments and practices of the larger organization it serves. Paramount among these is that NASA is primarily a research community; thus it appreciates the importance to any understanding of human events the necessity of independent inquiry and a continuing dialogue among many researchers. NASA does not intend the publications in its professionally recognized History Series to be "definitive" accounts; nor has their original designation as "official" histories ever implied bureaucratic censorship or constraint of individual authors. NASA history publications occasionally stimulate controversy both inside and outside the agency. This is as it should be and it testifies to the freedom given NASA-sponsored historians to interpret historical evidence in the light of their own best professional judgment.

NASA's contractual agreements with scholars for historical research and writing contain an "academic freedom" clause that assures each scholar full academic freedom of research and expression. All authors are asked to observe the highest professional standards for achieving historical accuracy in the representation of facts and events. Interpretations should be based on solid primary-source evidence, and speculations should be noted as such. In turn, NASA-sponsored researchers are assured access to all relevant documents and data, subject only to proprietary and national security restrictions.

### NASA History Advisory Committee

Another long-standing practice of the NASA History Program that has contributed to its the strength and independence is the use of an advisory committee of distinguished non-NASA scholars to provide impartial guidance on policy and program issues (see the appendix for a list of past and present members). As one of several standing subcommittees of the NASA Advisory Council, the History Advisory Committee reports directly to the Council and thereby to the NASA Administrator. The chairman of the History Advisory Committee, as a member of the Council, also brings to the Council's deliberations the knowledge and insights of a professional historian.

Appointment to NASA's History Advisory Committee is a mark of distinction, made partly in recognition of an individual's accomplishments in historical scholarship. Committee (and Council) mem-

bers serve without compensation to assure that their advice will be unaffected by any conflict of interest.

During 1991, the NASA History Advisory Committee assisted the agency in developing a Long-Range Plan to shape history program activities for the remainder of the twentieth century. This strategic planning effort suggested four useful courses of action for the NASA History Program: (1) continuous promotion of an outstanding contract history program on the development of the entire aerospace enterprise; (2) stimulation of new work on issues of interest to NASA, with an emphasis on applied history through, for example, symposia whose results could be published or be the basis for future studies; (3) continuous attention to the NASA Historical Reference Collection as a resource not only for NASA but for a broad audience of scholars; and (4) involvement of other NASA offices to assure that the products of the NASA History Program are the most useful possible to NASA personnel. In every case, these goals will be oriented toward providing senior NASA officials with information useful in their policy-making and decision-making duties.

**Historical Research through Contracts**

A fundamental characteristic about the history of NASA is that many of its research and development programs are carried out by the university and industrial communities on the basis of contracts with the agency. As a result, aerospace research opportunities are not confined to the agency, but are available to innumerable researchers in the private sector and in the academic community. Similarly, NASA has typically extended its opportunities for agency-sponsored historical research to university-affiliated and independent scholars throughout the country. The entire scholarly community may thus benefit from NASA's history function, while NASA in turn benefits from the knowledge and research talents of an ever-widening circle of professional historians.

Historical research and writing on the basis of a contract award differs from the research grant more familiar to academic scholars, in that contract historians are obligated to produce a specified "product" as a result of their work. Depending upon the contract (and each contract is unique) a "product" might be a publishable manuscript, a research report, a collection of documents, finding aids, or a combination of all four.

To the uninitiated, contracting with any agency of the federal government might appear complicated, time-consuming, and otherwise intimidating. The NASA History Division has, however, tried to simplify the process of contracting with NASA for historical research and writing, while honoring the requirements of the Federal Acquisition Regulations. These establish policy on the awarding of all contracts. Most important, contracts are awarded competitively and on the basis of an impartial assessment of individuals' qualifications, the intrinsic quality and promise of the proposed work, and according to Federal Acquisition Regulations. Opportunities for historical research and writing contracts with NASA are widely advertised and each proposal receives a careful "peer review," the primary basis for awarding a contract.

# PART II

# WRITING NASA HISTORY

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# NASA HISTORICAL PUBLICATIONS

### Introduction

The NASA History Division's publication program is an ongoing, long-term effort to publish books, monographs, articles, and other studies on the history of NASA and its multifaceted research and development of space and aeronautical systems, its space exploration efforts, and its space science and applications programs. The publications issued under the auspices of the NASA History Division respond to the provisions of the National Aeronautics and Space Act of 1958 which requires NASA to "provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof." The publications program is reappraised at regular intervals to ensure that subjects of priority to the agency are being properly documented.

### The NASA History Series

The list of published works put out by the NASA History Division include books written by historians officially employed by NASA, as well as books prepared by historians working under contract to the agency, sometimes by individuals outside official NASA channels, and occasionally by staff members. Books published as part of the NASA History Series have typically appeared in the Special Publications (SP-4000) series and are classified in one of several categories.

The NASA History Series has published significant historical works in five broad categories, organized by special publication numbers:

*Reference Works, SP-4000:* books in this category provide information, usually in dictionary, encyclopedia, or chronological form for use by NASA personnel, scholars, and the public.

*Management Histories, SP-4100:* this category contains historical works analyzing the institutional development of NASA, its institutional culture, and its broad functions in the execution of its aeronautics and space mission.

*Project Histories, SP-4200:* by far the largest number of works have appeared in this category, subdivided into *Human Space Flight Programs*, *Satellite Space Flight Programs*, and *Scientific Programs* relating to the various space efforts undertaken by NASA over its history.

*Center Histories, SP-4300:* books in this category describe the specific histories of the various NASA field centers.

*General Histories, SP-4400:* this category's publications analyze in detail a variety of topics of interest to NASA, special issues in the development of space flight, and the evolution of the aerospace program as it relates to the agency.

### New Series in NASA History

In 1987 the NASA History Division inaugurated through the cooperation of The Johns Hopkins University Press, a "New Series in NASA History," where some of its sponsored research efforts have also been published. It was originated as a means of increasing public awareness of the history of NASA.

### Other Published Works

There have also been some NASA-sponsored historical books published by other presses as appropriate to ensure the widest

possible readership among those who might have an interest in the subject. NASA has also published as appropriate a series of translations, many of them from Russian, of classic studies about space. Also appearing occasionally have been technical memoranda, task papers in NASA history, and contractor reports. All of these publications have been designed essentially for internal NASA use as a means of enhancing agency personnel's knowledge and use of history in their current work. They have emphasized monographic treatments of important subjects. This organization support these efforts as funding allows.

**Published Volumes in the NASA History Series**

REFERENCE WORKS, SP-4000:

Grimwood, James M. *Project Mercury: A Chronology.* (NASA SP-4001, 1963).

Grimwood, James M., and Hacker, Barton C., with Vorzimmer, Peter J. *Project Gemini Technology and Operations: A Chronology.* (NASA SP-4002, 1969).

Link, Mae Mills. *Space Medicine in Project Mercury.* (NASA SP-4003, 1965).

*Astronautics and Aeronautics: A Chronology of Science, Technology and Policy.* (NASA SP-4004 to SP-4025, a series of annual volumes continuing from 1961 to 1985, with an earlier summary volume, *Aeronautics and Astronautics, 1915-1960.*

Ertel, Ivan D., and Morse, Mary Louise. *The Apollo Spacecraft: A Chronology, Volume I, Through November 7, 1962.* (NASA SP-4009, 1969).

Morse, Mary Louise, and Bays, Jean Kernahan. *The Apollo Spacecraft: A Chronology, Volume II, November 8, 1962-September 30, 1964.* (NASA SP-4009, 1973).

Brooks, Courtney G., and Ertel, Ivan D. *The Apollo Spacecraft: A Chronology, Volume III, October 1, 1964-January 20, 1966.* (NASA SP-4009, 1973).

Van Nimmen, Jane, and Bruno, Leonard C., with Rosholt, Robert L. *NASA Historical Data Book, Vol. I: NASA Resources, 1958-1968.* (NASA SP-4012, 1976, rep. ed. 1988).

Newkirk, Roland W., and Ertel, Ivan D., with Brooks, Courtney G. *Skylab: A Chronology.* (NASA SP-4011, 1977).

Ertel, Ivan D., and Newkirk, Roland W., with Brooks, Courtney G. *The Apollo Spacecraft: A Chronology, Volume IV, January 21, 1966-July 13, 1974.* (NASA SP-4009, 1978).

Ezell, Linda Neuman. *NASA Historical Data Book, Vol II: Programs and Projects, 1958-1968.* (NASA SP-4012, 1988).

Ezell, Linda Neuman. *NASA Historical Data Book, Vol. III: Programs and Projects, 1969-1978.* (NASA SP-4012, 1988).

MANAGEMENT HISTORIES, NASA SP-4100:

Rosholt, Robert L. *An Administrative History of NASA, 1958-1963.* (NASA SP-4101, 1966).

Levine, Arnold S. *Managing NASA in the Apollo Era.* (NASA SP-4102, 1982).

Roland, Alex. *Model Research: The National Advisory Committee for Aeronautics, 1915-1958.* (NASA SP-4103, 1985).

Fries, Sylvia Doughty. *NASA Engineers and the Age of Apollo.* (NASA SP-4104, 1992).

PROJECT HISTORIES, NASA SP-4200:

Human Space Flight Programs:

Swenson, Loyd S., Jr., Grimwood, James M., and Alexander, Charles C. *This New Ocean: A History of Project Mercury.* (NASA SP-4201, 1966).

Hacker, Barton C., and Grimwood, James M. *On Shoulders of Titans: A History of Project Gemini.* (NASA SP-4203, 1977).

Benson, Charles D. and Faherty, William Barnaby. *Moonport: A History of Apollo Launch Facilities and Operations.* (NASA SP-4204, 1978).

Ezell, Edward Clinton, and Ezell, Linda Neuman. *The Partnership: A History of the Apollo-Soyuz Test Project.* (NASA SP-4209, 1978).

Brooks, Courtney G., Grimwood, James M., and Swenson, Loyd S., Jr. *Chariots for Apollo: A History of Manned Lunar Spacecraft.* (NASA SP-4205, 1979).

Bilstein, Roger E. *Stages to Saturn: A Technological History of the Apollo/Saturn Launch Vehicles.* (NASA SP-4206, 1980).

Compton, W. David, and Benson, Charles D. *Living and Working in Space: A History of Skylab.* (NASA SP-4208, 1983).

Compton, W. David. *Where No Man Has Gone Before: A History of Apollo Lunar Exploration Missions.* (NASA SP-4214, 1989).

Satellite Space Flight Programs:

Green, Constance McL., and Lomask, Milton. *Vanguard: A History.* (NASA SP-4202, 1970; rep. ed. Smithsonian Institution Press, 1971).

Hall, R. Cargill. *Lunar Impact: A History of Project Ranger.* (NASA SP-4210, 1977).

Ezell, Edward Clinton, and Ezell, Linda Neuman. *On Mars: Exploration of the Red Planet, 1958-1978.* (NASA SP-4212, 1984).

Scientific Programs:

Newell, Homer E. *Beyond the Atmosphere: Early Years of Space Science.* (NASA SP-4211, 1980).

Pitts, John A. *The Human Factor: Biomedicine in the Manned Space Program to 1980.* (NASA SP-4213, 1985).

Naugle, John E. *First Among Equals: The Selection of NASA Space Science Experiments.* (NASA SP-4215, 1991).

CENTER HISTORIES, NASA SP-4300:

Hartman, Edwin, P. *Adventures in Research: A History of Ames Research Center, 1940-1965.* (NASA SP-4302, 1970).

Hallion, Richard P. *On the Frontier: Flight Research at Dryden, 1946-1981.* (NASA SP-4303, 1984).

Muenger, Elizabeth A. *Searching the Horizon: A History of Ames Research Center, 1940-1976.* (NASA SP-4304, 1985).

Rosenthal, Alfred. *Venture into Space: Early Years of Goddard Space Flight Center.* (NASA SP-4301, 1985).

Hansen, James R. *Engineer in Charge: A History of the Langley Aeronautical Laboratory, 1917-1958.* (NASA SP-4305, 1987).

Dawson, Virginia P. *Engines and Innovation: Lewis Laboratory and American Propulsion Technology.* (NASA SP-4306, 1991).

GENERAL HISTORIES, NASA SP-4400:

Corliss, William R. *NASA Sounding Rockets, 1958-1968: A Historical Summary.* (NASA SP-4401, 1971).

Wells, Helen T., Whiteley, Susan H., and Karegeannes, Carrie. *Origins of NASA Names.* (NASA SP-4402, 1976).

Anderson, Frank W., Jr. *Orders of Magnitude: A History of NACA and NASA, 1915-1980.* (NASA SP-4403, 1981).

Sloop, John L. *Liquid Hydrogen as a Propulsion Fuel, 1945-1959.* (NASA SP-4404, 1978).

Roland, Alex. *A Spacefaring People: Perspectives on Early Spaceflight.* (NASA SP-4405, 1985).

Bilstein, Roger E. *Orders of Magnitude: A History of the NACA and NASA, 1915-1990.* (NASA SP-4406, 1989).

**New Series in NASA History**

Cooper, Henry S. F., Jr. *Before Lift-Off: The Making of a Space Shuttle Crew.* Baltimore, MD: Johns Hopkins University Press, 1987.

McCurdy, Howard E. *The Space Station Decision: Incremental Politics and Technological Choice.* Baltimore, MD: Johns Hopkins University Press, 1990.

Hufbauer, Karl. *Exploring the Sun: Solar Science Since Galileo.* Baltimore, MD: Johns Hopkins University Press, 1991.

**Other Published Works**

PUBLICATIONS OF OTHER PRESSES:

Tomayko, James E. *Computers in Spaceflight: The NASA Experience,* published as volume 18, *Encyclopedia of Computer Science and Technology,* Kent, Allen, and Williams, James G., editors. New York: Marcel Dekker, Inc., 1987.

Smith, Robert W. *The Space Telescope: A Study of NASA, Science, Technology, and Politics.* Cambridge: Cambridge University Press, 1989.

Collins, Martin J., and Fries, Sylvia D., eds. *A Spacefaring Nation: Perspectives on American Space History and Policy.* Washington, DC: Smithsonian Institution Press, 1991.

CONTRACTOR REPORTS, TECHNICAL MEMORANDA, AND HISTORICAL NOTES:

*Historical Sketch of NASA.* (NASA EP-29, 1965).

Dickson, Katherine M., ed. *History of Aeronautics and Astronautics: A Preliminary Bibliography.* (NASA HHR-29, 1968, multilith).

Boone, W. Fred. *NASA Office of Defense Affairs: The First Five Years.* (NASA HHR-32, 1970, multilith).

Hall, R. Cargill. *Project Ranger: A Chronology.* (JPL/HR-2, 1971).

*Skylab: Preliminary Chronology.* (NASA HHN-130, May 1973).

Corliss, William R. *Histories of the Space Tracking and Data Acquisition Network (STANDAN), the Manned Flight Network (MSFN), and the NASA Communications Network (NASCOM).* (NASA Contractor Report-140390, 1974, multilith).

Corliss, William R. *A History of the Deep Space Network.* (NASA Contractor Report-151915, 1976, multilith).

Byers, Bruce K. *Destination Moon: A History of the Lunar Orbiter Program.* (NASA TM X-3487, 1977, multilith).

Hall, R. Cargill, ed. *Essays on the History of Rocketry and Astronautics: Proceedings of the Third through the Sixth History Symposia of the International Academy of Astronautics.* 2 Vols. (NASA CP-2014, 1977, multilith).

Shortal, Joseph A. *A New Dimension, Wallops Island Flight Test Range: The First Fifteen Years.* (NASA RP 1028, 1978).

Looney, John J., ed. *Bibliography of Space Books and Articles from Non-Aerospace Journals, 1957-1977.* (NASA HHR-51, 1979).

Tomayko, James E. *Computers in Space Flight: The NASA Experience.* (Contractor Report 182505, 1988, multilith).

Lewin, Thomas J., and Narayanan, V.K. *Keeping the Dream Alive: Managing the Space Station Program, 1982-1986.* (Contractor Report 4272, 1990, multilith).

TRANSLATIONS:

Hohmanns, Walter. *The Attainability of Heavenly Bodies.* (Munich, Germany, 1925) (NASA TT F-44, 1962).

Tsander, F.A. *Problems of Flight by Jet Propulsion.* (Moscow, 1961, 2d ed.) (NASA TT F-147, 1964).

Tsiolkovskiy, K.E. *Aerodynamics.* (Moscow, 1952) (NASA TT F-236, 1965).

Tsiolkovskiy, K.E. *Reactive Flying Machines.* (Moscow, 1954) (NASA TT F-237, 1965).

Tsiolkovskiy, K.E. *Dirigibles.* (Moscow, 1959) (NASA TT F-238, 1965).

Tsiolkovskiy, K.E. *Works on Rocket Technology.* Tikhonravov, M.K. Editor. (Moscow, 1947) (NASA TT F-243, 1965).

Blagonravov, A.A. Editor., et al. *Soviet Rocketry: Some Contributions to Its History.* (Moscow, 1964) (NASA TT F-343, 1966).

Sokol'skii, V.N. *Russian Solid-Fuel Rockets.* (Moscow, 1963) (NASA TT F-415, 1967).

Slukhai, I.A. *Russian Rocketry: A Historical Survey.* (Moscow, 1965) (NASA TT F-426, 1968).

Blagonravov, A.A. Editor, et al. *USSR Achievements in Space Research: First Decade in Space, 1957-1967.* (Moscow, 1968) (JPRS 47311, 1969).

Yakolev, A.S. *Fifty Years of Soviet Aircraft Construction.* (Moscow, 1968) (NASA TT F-627, 1970).

Rynin, N.A. *Interplanetary Flight and Communications: Dreams, Legends, and Early Fantasies.* Vol. 1, No. 1. (Leningrad, 1928) (NASA TT F-640, 1970).

Rynin, N.A. *Interplanetary Flight and Communications: Spacecraft in Science Fiction.* Vol 1. No. 2. (Leningrad, 1928) (NASA TT F-641, 1971).

Rynin, N.A. *Interplanetary Flight and Communications: Radiant Energy: Science Fiction and Scientific Projects.* Vol 1, No. 3. (Leningrad, 1931) (NASA TT F-642, 1971).

Rynin, N.A. *Interplanetary Flight and Communications: Rockets.* Vol 2. No. 4. (Leningrad, 1929) (NASA TT F-643, 1971).

Rynin, N.A. *Interplanetary Flight and Communications: Theory of Rocket Propulsion.* Vol 2. No 5. (Leningrad, 1929) (NASA TT F-644, 1971).

Rynin, N.A. *Interplanetary Flight and Communications: Superaviation and Superartillery.* Vol 2, No. 6. (Leningrad, 1929) (NASA TT F-645, 1971).

Rynin, N.A. *Interplanetary Flight and Communications: K.E. Tsiolkovskii: Life Writings, and Rockets.* Vol 3. No. 7. (Leningrad, 1931) (NASA TT F-646, 1971).

Rynin, N.A. *Interplanetary Flight and Communications: Theory of Space Flight.* Vol 3. No. 8. (Leningrad, 1932) (NASA TT F-647, 1971).

Rynin, N.A. *Interplanetary Flight and Communications: Astronavigation: Theory, Annals, Bibliography, Index.* Vol. 3. No. 8. (Leningrad, 1932) (NASA TT F-648, 1971).

Oberth, Hermann. *Ways to Spaceflight.* (Munich, 1929) (NASA TT F-622, 1972).

# 4

# REVIEWS OF NASA HISTORICAL PUBLICATIONS

NASA's history program has contributed more than fifty professionally recognized historical studies and reference works to the literature of aeronautics and space science, technology, and management. What follows is a selection of comments about some of the recent volumes sponsored by the NASA History Division.

*An Administrative History of NASA, 1958-1963.* By Robert L. Rosholt. (NASA SP-4101, 1966, 381 pp.).

Rosholt's volume... is substantial and critical... [a] provocative survey of the organizational structure, administrative procedures, and procurement administration of a momentous public endeavor.

*Science*, 15 September 1967

*This New Ocean: A History of Project Mercury.* By Loyd S. Swenson, Jr., James M. Grimwood, and Charles C. Alexander. (NASA SP-4201, 1966, 681 pp.).

...in this volume the authors have succeeded remarkably well in achieving three different and rather difficult ends. First, they have provided a readable narrative of the first essay by the United States into manned space flight...they have managed to do so in a way that is comprehensible to the layman without being negligible to the specialist. Second, they have crammed their narrative with observations and insights that offer food for thought...for the treatment offered here thrusts far beyond the particulars of Project Mercury to illuminate many of the enduring problems of our technological society as a whole. And finally, they have avoided...the pitfalls of official history...they have been able to retain a high degree of objectivity and freedom to criticize even while accepting official support for a volume that almost certainly would not and could not have been written without heavy subsidy and the fullest access to records.

*Aerospace Historian*, Autumn 1967

*On the Shoulders of Titans: A History of Project Gemini.* By Barton C. Hacker and James M. Grimwood. (NASA SP-4203, 1977, 625 pp.).

The Gemini spacecraft (launched by the Titan missile, hence the title) was needed to prove that men could endure in space and perform the tasks necessary for later travel to the moon....The story is told in terms of men, money, and materials and the effort made to keep them balanced as the program progressed along its bumpy path....The trials as well as the triumphs of the Gemini program are dealt with....Indeed, this book is refreshingly free of the 'court history' one so often finds in official histories.

*Technology and Culture*, January 1979

*Lunar Impact: A History of Project Ranger.* By R. Cargill Hall. (NASA SP-4210, 1977, 450 pp.).

The first close-up photographs of the lunar surface, obtained in mid-1964, opened a new era by bringing the moon into the purview of experimental science....Many advanced machines had to be designed to provide them, and the difficulties encountered in the task were not only ones of engineering, but ones of management as well. This is the theme of Hall's well-researched and excitingly written history of Project Ranger, conducted by NASA and the Jet Propulsion Laboratory (JPL) of the California Institute of Technology in the years 1959 to 1965.

*Science*, 12 May 1978

*Liquid Hydrogen as a Propulsion Fuel, 1945-1959.* By John L. Sloop. (NASA SP-4404, 1978, 325 pp.).

[The author] has written eloquently, often with delicate wit, and always with scholarly concern for the niceties of careful research and citation, about a number of important events inadequately treated in the history of recent technology....Sloop has a rare talent for characterization, is (obviously) a determined and skillful researcher, and has his share of the luck he deems essential to success in research enterprises of this sort.

*Technology and Culture*, January 1980

*Moonport: A History of Apollo Launch Facilities and Operations.* By Charles D. Benson and William Barnaby Faherty. (NASA SP-4204, 1978, 636 pp.) and *The Partnership: A History of the Apollo-Soyuz Test Project.* By Edward Clinton Ezell and Linda Neuman Ezell. (NASA SP-4209, 1979, 560 pp.).

*Moonport* and *The Partnership* present solid historical analyses of two of the twentieth century's most impressive technological achievements: man's first trip to the moon in 1969 and the joint space venture of the United States and the Soviet Union in 1975....The authors had access to official documents, letters, and memoranda, and they have apparently consulted all the relevant historical, technological, and scientific secondary materials...all the involved historians obviously spent considerable time studying and intellectually digesting technical reports and manuals in order to give their lay readers such lucid accounts of highly complex procedures and operations...it is important to public knowledge to have professionally trained historians employ historical methods to explain significant events and place them in a meaningful historical context. Here is a broad lesson from these two books that contemporary society can ill afford to ignore.

*Journal of American History*, December 1979

*Chariots for Apollo: A History of Manned Lunar Spacecraft.* By Courtney G. Brooks, James M. Grimwood, and Loyd S. Swenson, Jr. (NASA SP-4205, 1979, 538 pp.).

*Chariots for Apollo* is certain to become a standard reference for all who examine the American manned space program...As historians have come to expect from the NASA history program, the book is meticulously researched in primary and secondary sources. The source notes are a quite useful guide in themselves to available Apollo material, and the authors completed over 340 interviews of key program personnel to give their book added insight and perspective. A useful bibliographical note and index, together with over a hundred illustrations (both drawings and photographs), enhance the book's reference value.

*Technology and Culture*, July 1980

*Stages to Saturn: A Technological History of Apollo/Saturn Launch Vehicles.* By Roger E. Bilstein. (NASA SP-4206, 1980, 511 pp.).

This volume is just one of many excellent histories produced by government and contract historians for the NASA History Office....The book is enhanced by many excellent appendixes and charts, and it has a thorough essay on sources and documentation, including exhaustive references and notes....Author Roger Bilstein...gracefully wends his way through a maze of technical documentation to reveal the important themes of his story; rarely has such a nuts-and-bolts tale been so gracefully told.

*Air University Review*, March-April 1983

*Beyond the Atmosphere: Early Years of Space Science.* By Homer E. Newell. (NASA SP-4211, 1980, 497 pp.).

Through the continuing publication of its History Series, the National Aeronautics and Space Administration has led the scientific and technical agencies of the U.S. Government in providing the public with professional historical review and analysis of their major programs....Newell provides

a thoughtful, wide-ranging overview of the development of American space science under NASA's leadership. He elucidates complex scientific and tangled administrative topics without retreat to either technical or managerial jargon.

*Science*, 23 October 1981

*Living and Working in Space: A History of Skylab.* By W. David Compton and Charles D. Benson. (NASA SP-4208, 1983, 449 pp.).

W. David Compton and Charles D. Benson have provided a model for the historical treatment of large-scale government-sponsored ventures in technology...*Living and Working in Space* is a valuable case study illuminating major questions of interest to historians of twentieth century science and technology....In their detailed presentation of the planning, promotion and execution of the Skylab program, the authors provide much useful insight into the wide variety of problems faced by the managers of such an enterprise....The volume is not only a welcome addition to the literature of space flight but also a genuine contribution that will be appreciated by all students of the history of science, technology, and public policy.

*Journal of American History*, September 1985

*On Mars: Exploration of the Red Planet.* By Edward Clinton Ezell and Linda Neuman Ezell. (NASA SP-4212, 1984, 535 pp.).

*On Mars*, an especially good example of the important NASA history series, chronicles in detail the exploration of the planet by space probes between the years 1958 and 1978...real value of this work is contained in the authors' ability to relay the complexity of the enterprise, as well as its flavor. Their ability to do this, beyond thorough research and decent writing, has derived from the support shown by NASA to place historians on site during the execution of a major mission.

*Aerospace Historian*, September 1985

*Model Research: The National Advisory Committee for Aeronautics, 1915-1958.* By Alex Roland. 2 vols. (NASA SP-4103, 1985, 769 pp.).

Alex Roland...has ostensibly written within the conventional bounds of agency history the nearly definitive account of the organization that provided aeronautics with government support from its infancy to the dawn of orbital space flight after Sputnik. In actuality he has done much more. By focusing not on the agency itself but on the intersection of the interests of the universities, industry, the military services, and the research facilities under the committee, Roland can emphasize the function of research and its impact on the evolution of aircraft of all kinds....A measure of the level of independence achieved by Roland and the NASA History Series is found in his ability to make candid judgments on individuals.

*Public Historian*, Spring 1986

*Engineer in Charge: A History of the Langley Aeronautical Laboratory, 1917-1958.* By James R. Hansen. (NASA SP-4305, 1987, 620 pp.).

*Engineer in Charge* is certainly a welcome addition to the important NASA History Series. It provides a context for the technical reports and memoranda so many of us have pored over in the course of our research. For that matter, the appendixes (including a separate appendix each for personnel, budget, facilities, aircraft, and organization) are worth the price of the book.

*Isis*, 79:2 (1988)

*Before Lift-Off: The Making of a Space Shuttle Crew.* By Henry S.F. Cooper, Jr. (New Series in NASA History, The Johns Hopkins University Press, 1987, 270 pp.

...Cooper has produced a fascinating and readable account of a Shuttle mission. Armchair astronauts will find plenty of interesting information, but for anyone seriously considering a career as an astro-

naut (or an instructor for that matter), this book is must reading.

*Space World*, February 1988

*NASA Historical Data Book, Vol. I: NASA Resources, 1958-1968.* Compiled by Jane Van Nimmen and Leonard C. Bruno, with the assistance of Robert L. Rosholt. (NASA SP-4012, 1988 ed., 631 pp.). *NASA Historical Data Book, Vol II: Programs and Projects, 1958-1968.* Compiled by Linda Neuman Ezell. (NASA SP-4012, 1988, 643 pp.). *NASA Historical Data Book, Vol. III: Programs and Projects, 1969-1978.* Compiled by Linda Neuman Ezell. (NASA SP-4012, 1988, 485 pp.).

A historical data book sounds like a desk encyclopedia: merely a useful place to look up facts. The three volumes of the *NASA Historical Data Book* are that and much more. In other fields of history, chronologies and encyclopedias are a convenience. However, the U.S. space program is so complex, and so little of its history has been written, that such resources are important as sources not only of data but also of historical overviews....

Ezell indicates in her preface that she expects the *Data Books* primarily to provide "quick answers to specific questions." However, she delivers much more than that. The sheer mass of data may make it unlikely that anyone would read Volumes II and III from cover to cover, but their excellent basic histories of NASA programs and projects will be invaluable to historians both as a starting point for research and as a source of comparative information.

*Isis*, 81:3 (1990)

*Orders of Magnitude: A History of the NACA and NASA, 1915-1990.* By Roger E. Bilstein. (NASA SP-4406, 1989, 167 pp.).

This is a very readable, and, I suspect, affordable little book, which deserves a place in the library of every serious aeronaut....an entertaining and factual representation of the activities of the NASA and its predecessor, NACA.

*Canadian Aeronautics and Space Journal*, December 1989

*The Space Station Decision: Incremental Politics and Technological Choice.* By Howard E. McCurdy. (New Series in NASA History, The Johns Hopkins University Press, 1990, 321 pp.).

Most people naturally think of engineering in terms of objects: bridges, dams, airplanes, missiles, and so on. But the most expensive and complex engineering projects, epitomized by those of NASA and the Pentagon, are characterized as much by enormous bureaucracies and labyrinthine decision-making processes as by their dazzling products....Howard McCurdy's book on NASA's space station project is a laudable example of the type of work that needs to be written.

*Air & Space*, March 1991

# 5

# CURRENT HISTORICAL RESEARCH AND DOCUMENTATION

In selecting subjects for historical research and documentation, the NASA History Division attempts to fulfill the needs of the agency, to anticipate questions most likely to be of historical interest, and to provide a balanced coverage of NASA's programs in aerospace science and technology. Many projects are initiated with the encouragement of, and jointly funded by, individual NASA program offices or centers. Occasionally a project will be suggested to NASA by an outside researcher; such projects receive the same careful consideration and peer evaluation as those proposed from inside the agency. All of NASA's history projects depend, of course, on the availability of qualified historians to carry them out and on limited resources.

During more than thirty years of historical scholarship, NASA's history program has produced well documented, professionally recognized histories of NASA's Mercury, Gemini, Apollo, Apollo-Soyuz, and Skylab programs. Space science has been treated in NASA-sponsored histories of the Ranger and Viking projects, a personal history by a former NASA chief scientist, a study of the development of policies associated with the selection of space science experiments, a book on biomedicine in the space program, and a recently published history of solar science since Galileo. Meanwhile, aeronautical research has been the subject of a history of NASA's predecessor, the National Advisory Committee for Aeronautics, and a historical account of high-speed flight research at NASA's Dryden Flight Research Center.

Much historical research and writing, has been directly related and contributes toward the growing interest in historical analysis as a source of greater understanding of a modern research and development organization's management, dynamics, and relationship with its political and technological milieu. The result has been the publication of several "thematic" or interpretive historical works sponsored by NASA. This approach was signaled with the publication in 1966 of Robert L. Rosholt's *An Administrative History of NASA, 1958-1963* (NASA SP-4101) and has continued to the present with such publications as *The Space Station Decision: Incremental Politics and Technological Choice* (The Johns Hopkins University Press, 1990) by Howard E. McCurdy.

Understanding the culture, processes, and critical environment of successful research and development institutions is a predominant theme in several current NASA history projects. These include a study of NASA's first generation of engineers that will appear in mid-1992 and an administrative biography of James E. Webb, the NASA Administrator between 1961 and 1968 during the Apollo era. Also important in this intellectual process are several other historical works presently underway: a management history of the Johnson Space Center; an exploratory study on the evolution of NASA/Industry Relations; a reference work compiling information on NASA resources between 1969 and 1978; and a documentary history of the Space Age that through essays and documents will highlight many of the important themes of NASA's history.

The NASA History Division is also beginning to emphasize more thoroughly the scientific aspects of the agency's mission. A project currently being sponsored is

aimed at recording the history of planetary geosciences, accentuating the period since the creation of NASA but also analyzing earlier research efforts. The Division is also sponsoring a history of planetary astronomy that will be broadly based and interpretive in orientation.

Historical research at NASA also recognizes the need to document large-scale and complex technological enterprises in the agency's development. NASA's two major human spaceflight projects since Project Apollo, the Space Shuttle and the Space Station, are both being documented by NASA historians on site. The success of these documentation efforts is partly attributable to support received from NASA's Johnson Space Center and the Space Station program office. The Division is also sponsoring research on space science probes and support structures. An effort is currently underway with the support of the Jet Propulsion Laboratory, to produce a history on the Deep Space Network used so successfully to communicate with the Voyager spacecraft and for a myriad of other programs.

Finally, the NASA History Program "New Series in NASA History," produced by The Johns Hopkins University Press, has begun publishing wide-reaching historical analyses of NASA. Studies planned for the New Series will investigate NASA's relations with the industrial, military, and university communities during the Apollo era; explore the theme of space and the American imagination; analyze the evolution of NASA's organizational culture; and interpret the 1972 decision to build the Space Shuttle.

# 6

# OPPORTUNITIES FOR RESEARCH AND WRITING SUPPORT

NASA supports historical research and writing in NASA-related history by both academically affiliated and independent scholars. Support may be in the form of a competitive fellowship for pre-doctoral or postdoctoral research awarded annually by the American Historical Association, or in the form of a contract for a specific research, writing and/or documentation effort in a subject of particular interest to the agency at a given time.

### Fellowship Program

In cooperation with the Society for the History of Technology, the History of Science Society, and the Economic History Association, the American Historical Association administers annually, on behalf of NASA, a fellowship competition for pre-doctoral or post-doctoral research in any area of NASA-related aerospace history. The fellowship program is publicized regularly in the newsletters of the cooperating societies and of the American Historical Association. For further information, contact the American Historical Association, 400 A Street, SE, Washington, DC 20003.

### Contract Opportunities for Sponsored Research

Periodically the NASA History Division invites scholars to submit proposals for research, writing, and documentation projects on subjects of current interest to the agency. These solicitations are publicized in the newsletter of the Society for the History of Technology, the History of Science Society, the Organization of American Historians, and the American Historical Association. They are also advertised in the *Commerce Business Daily*, the official vehicle for advertising all contracts awarded by the Federal Government. The History Division also maintains a mailing list of individuals and organizations who want to receive information on history contracts. To be added to this list, please write to the NASA History Division, Code ADA-2, Washington, DC, 20546.

The individual solicitation documents contain full details on the nature of the historical research and writing desired and the specifics of proposal preparation and submission.

### Preparing Proposals

In preparing a proposal, one should keep in mind that both the content and the presentation will be the primary basis upon which NASA reviewers will attempt to predict the quality of the proposed work, which typically results in a book-length, publishable manuscript. Proposals should, therefore, be clearly and neatly organized. The content of each proposal must be consistent with the requirements set forth in the specific solicitation and to the guidelines provided below so as to aid the reviewers' analysis. All proposals must contain a plan of research and writing, the total length of which will be restricted to 10 pages of single-spaced type. Cover letter, title page, table of contents, and budget summaries are excluded from the 10 page limit. Vitae and copies of other publications by the investigators should also be submitted with the proposal and are also excluded from the page limit.

The following guidelines describe generic information to be included on all

proposals and assembled in the following order:

1. Cover letter: Signed by the principal investigator explaining the proposal in general terms.

2. Title Page: Use identifying information given in the solicitation.

3. Table of Contents

4. Proposal Summary: Include an abstract of the proposal of not more than one page in length.

5. Proposal Specifics: This section should describe in detail the approach and direction of the research and writing, the length of the contract, the anticipated results, and a schedule for completion of a manuscript history on the subject. It should also describe the management plan for the execution of the work. This research proposal will outline and describe how the candidate would handle this project and must include a brief description of any other contract project currently underway.

6. Cost Plan: This section should include the information contained in the sample Annual Budget and Personnel Summary page included in this package. One sheet must be filled out for each year of the proposal.

7. Personnel Qualifications: Include a description and related experience for each of the key personnel involved in the project. A professional vita or resume, *including* a list of the candidate's publications, should be included.

8. Sample of Historical Writing: Include two or three writing samples (preferably published samples in an area relevant to the volume's topic).

NASA's policy is to use substantive material contained in proposals for evaluation purposes only. In rare instances when such material constitutes a "trade secret" under the law and if the proposer wishes to maintain trade secret rights in any technical data, the following "notice" should be incorporated into the proposal's cover page. (Thereafter, it is NASA policy to protect this technical data as a trade secret. NASA assumes no liability for use or disclosure of any technical data to which such a notice has not been applied.)

**NOTICE**

> Data on pages _____ of this proposal constitute a trade secret. It is furnished to the Government in confidence with the understanding that it will not, without the permission of the offeror, be used or disclosed other than for evaluation purposes; provided, however, in the event a contract is awarded on this proposal, the Government may obtain in the contract additional rights to use and disclose these data.

**The Evaluation Process**

Selection decisions on NASA History Program research announcements will be made following peer review of individual proposals. The NASA History Division may use any one of several review processes: review by discipline specialists in the area of the proposal; review entirely in-house where NASA has particular competence; or review by a combination of in-house people and selected external reviewers. Regardless of the technique, the final decisions are always made by the designated NASA selecting official. A proposal that is both academically and programmatically meritorious, but which is not selected for award during its initial review under the solicitation process may be included in subsequent reviews unless the proposer requests otherwise.

The principal elements (of approximately equal weight) considered in evaluating a proposal are its relevance to NASA's objectives, intrinsic merit, and cost. Additionally, evaluation of a proposal's relevance to NASA's objectives includes the consideration of the potential contribution of the effort to NASA's mission. Evaluations are based on the following criteria:

(1) whether the proposer is adequately prepared, by training and experience, to successfully complete the

proposed project (all proposals should be accompanied by a curriculum vitae);

(2) the degree to which the proposer has identified the essential questions germane to an understanding of the subject to be researched; how well these questions have been integrated into the proposal's discussion of the scope and substance of the proposed work, and generally how well the project has been conceptualized;

(3) whether the proposal demonstrates an adequate familiarity with its subject, as well as the relevant scholarly literature; how well the proposal relates the expected results of the project to current relevant scholarship;

(4) the probable effectiveness of the proposal's work plan and methodology;

(5) and whether the budget is realistic and reasonable. Evaluation of the budget for a proposed effort includes the consideration of the realism and reasonableness of the proposed cost and the relationship of the proposed cost to available funds.

Proposals should include a realistic appraisal of the research required and the nature and location of pertinent primary resources. It must also include a practical schedule of completion for the project, anticipating both delays in obtaining source material and the scholarly review and revision process.

Sometimes the History Division determines that certain selected historical research projects are appropriate for inclusion in the "New Series in NASA History" published by the Johns Hopkins University Press. Proposals to research and write volumes for this series require the proposer's special attention to demonstrate a promising analytical or interpretative framework and to indicate the capability of writing effectively for nonspecialist audiences.

### Researching and Writing Under Contract

Once NASA has notified a candidate that a proposal has been accepted for sponsored historical research and writing, the History Division works closely with the selected historian to develop a "statement of work" which best reflects the content and methodology of the historian's proposed research as accepted by NASA. Typically, evaluators suggest ways in which a proposed plan of research might be strengthened; these suggestions are discussed with the selected historian, and most historians welcome this constructive feedback from their peers. The "statement of work" will become the heart of NASA's contract for historical research and is approached as the creative, rather than restrictive, aspect of the contracting process.

As its names implies, a contract is a firm statement of mutual obligations to be met by both the historian and NASA. At the same time, NASA recognizes that art and science, which are interwoven in all historical work, are inherently unpredictable and that modifications in both the scope and schedule of a contract may have to be made if justified.

### Schedule

Contract historians expecting to submit a proposal under a solicitation for sponsored research, writing, and documentation activities should allow ample time for the evaluation and contracting process. Normally, evaluation of competitive proposals requires one month from the deadline for submission of proposals. Development of contracts for an award over $10,000 can require as much as an additional five months, and the procedure for securing awards for less than $10,000 may require as much as five weeks after proposal evaluation is completed.

### Selection for Award

When a proposal is not selected for award, and the proposer has indicated that the proposal is not to be held over for subsequent reviews, the proposer will be notified that the proposal was not selected

for award. NASA will notify the proposer and explain generally why the proposal was not selected. Proposers desiring additional information may contact the selecting official who will arrange a debriefing.

When a proposal is selected for award, negotiation and award will be handled by the procurement office in the funding installation. The proposal is used as the basis for negotiation with the submitter. In this process the contracting officer may request certain business data and may forward a model contract and other information which will be of use during the contract negotiation.

**Cancellation of Research Announcement**

The NASA History Division reserves the right to make no awards under its research announcement program, and, in the absence of program funding or for any other reason, to cancel its solicitation by having a notice published in the *Commerce Business Daily*. NASA will assume no liability for cancelling the project or for anyone's failure to receive actual notice of cancellation. Cancellation may be followed by issuance and synopsis of a revised research announcement, since its amendment is normally not permitted.

**Writing Under Contract**

Historical research and writing conducted through, or under the auspices of, the NASA History Division adheres to traditional professional standards, including free access to materials to the extent permitted by law, use of best evidence, free rein of independent judgment, and judicious pursuit of truth and objectivity.

The work of NASA-sponsored historians, whether NASA employees or researchers working through a contract, is submitted for independent review to participants and professional peers both inside and outside NASA. The purpose of this review is to check for factual accuracy and soundness of argument, to give a fair hearing to conflicting interpretations, and to assure insofar as possible that the author has adhered to scholarly standards in gathering and presenting evidence. The NASA History Division endeavors to apply the same criteria of publication employed by scholarly journals and presses. Neither NASA nor the History Division necessarily endorses the views expressed in its history publications or derived from research in its records; those remain the responsibility of the author.

# PART III

# SOURCES OF NASA HISTORY IN THE WASHINGTON, DC, AREA

# 7

# DOCUMENTARY RESEARCH IN NASA HISTORY

A substantial historical reference file in the NASA History Division at NASA Headquarters in Washington, D.C., contains copies of many historically valuable official records, newspaper clippings, and other documentary materials. This resource provides a good starting point for any research undertaking in NASA-related history. The primary source materials in this collection, as well as those to be found on NASA history elsewhere are described in the following chapters.

### Secondary Sources and Reference Guides

The most useful secondary sources for NASA-related history are the traditional background literature that any scholar would normally consult in researching a historical topic. These include NASA's own History Series, the New Series in NASA History, and other reference works available from a variety of sources. Other studies can be identified through bibliographic guides and will be found at any good public or university library. A few specialized bibliographies, like Katherine M. Dickson, *History of Aeronautics and Astronautics: A Preliminary Bibliography* (NASA HHR-29, 1968) and John J. Looney, *Bibliography of Space Books and Articles from Non-Aerospace Journals, 1957-1977* (NASA HHR-51, 1979), are available in the NASA History Division at NASA Headquarters. The U.S. government publishes a number of directories, reference works, and finding aids for research in subjects involving the legislative and executive branches; these are described below. The more specialized aerospace technical literature is best approached through a computerized retrieval system maintained by NASA's Scientific and Technical Information Branch and by reviewing Richard P. Hallion, *The Literature of Aeronautics, Astronautics, and Air Power* (Office of Air Force History, 1984) and Dominick A. Pisano and Cathleen S. Lewis, eds., *Air and Space History: An Annotated Bibliography* (Garland Publishing, 1988).

### Current Published Records of the U.S. Government

The *United States Government Manual*, published annually since 1935 by the National Archives and Records Administration, is the best concise guide to government organizations and the staffing of key positions. Before 1973 it was called the *United States Government Organization Manual*. The *Congressional Directory*, published for each session of Congress, provides more detailed information on the legislative branch and its staffs, but must be used with caution: the congressmen write their own biographies.

The best introduction to available government publications and how to locate them is still Anne M. Boyd and Rae E. Rips, *United States Government Publications* (A.M. Wilson Co., 1949). Lawrence F. Schmeckebier and Roy B. Eastin, *Government Publications and Their Use* (The Brookings Institute, 2d ed., 1969), supplements Boyd and Rips. A short overview can be found in Joe Morehead, *Introduction to United States Public Documents* (Libraries Unlimited, 1975).

### General Guides

The basic finding aid for all twentieth-century U.S. Government publications is the *United States Government Publications Monthly Catalogue*, collected in an indexed, annual volume since 1895. This may now be supplemented by the *Cumula-*

*tive Subject Index to the Monthly Catalogue of United States Government Publications, 1900-1971* (1972- ). This multi-volume set is as yet incomplete, but it already covers NACA and NASA. The *Monthly Catalogue* contains numerous citations of congressional reports and documents. To find these in the serial file, use U.S. Superintendent of Documents, *Numerical Lists and Schedule of Volumes*, published annually since 1897 (title varies).

*A Directory of Information Resources in the United States Federal Government* (Library of Congress, 1974 ed.), goes beyond official documents to include government-sponsored information resources, museums, historical societies, etc. J.L. Andriot's *Guide to U.S. Government Serials and Periodicals* (annual, 1959-1972) and *Guide to U.S. Government Publications* (annual, 1973-1976; irregularly thereafter) are indexed by agency and subject.

### Legislative Documents

The *Congressional Record* (1873- ) is the basic source on the activities of the U.S. Congress. Users are cautioned that the *Record* will contain not only an account of actual proceedings, but material inserted by congressmen. It is published daily and bound at the end of each legislative session with a comprehensive index in the last volume. In addition to a subject index and a numerical list of bills and resolutions, this volume traces the history of bills; it is an indispensable guide to the legislative process. Both houses of Congress also publish a *Journal*, which is the official record of their respective proceedings. Committee hearings can be located with F. M. Johnston, *Cumulative Index of Congressional Committee Hearings* (to 1959), with supplements (to 1966).

Enacted federal legislation can be found in *United States Code (USC)*, published every six years (with annual supplements), which lists the laws of the United States by subject. One should also consult the *United States Code Annotated*, which is published annually; its annotations provide judicial opinions bearing on sections of the Code. Since 1964 the *USC* has been indexed as well. The *United States Statutes at Large* lists public laws and concurrent resolutions by date; the series is published annually in separate, indexed volumes. The *Tables of Laws Affected* are published as supplemental volumes to the *Statutes*. These publications can be found in any university library as well as law libraries. For recently passed federal legislation, researchers should consult the *Slip Laws*, which reproduce the laws themselves, with notes; these can be found in any law library and can also be obtained from the U.S. Superintendent of Documents, Government Printing Office.

### Executive Branch

The National Archives has published the *Code of Federal Regulations (CFR)* annually since 1938. This compilation of executive orders, proclamations, and rules and regulations for departments and agencies does for administrative law what the *USC* does for statute law. The material for the *CFR* is drawn from the calendar year entries in the *Federal Register*, a daily publication of Executive Branch documents and notices of public applicability and legal effect.

Both the *CFR* and the *USC* are divided into 50 titles. Many, but not all, of the titles are identical in the two publications. For example, in the *USC*, the "National Space Program" is chapter 26, Title 42, "The Public Health and Welfare." In the *CFR*, "Aeronautics and Space" covers all of Title 14, of which chapter V is devoted exclusively to NASA.

The *Weekly Compilation of Presidential Documents* publishes on each Monday all public presidential statements and materials released before 5:00 p.m. on the previous Friday. Since 1945 the National Archives has published in bound volumes the *Public Papers of the Presidents of the United States*, including all public statements and messages and verbatim transcripts of news conferences.

### Federal Primary Sources

The archival or primary sources for research in NASA history are known by the rubric, "records." Mastering the procedures and terminology by which the U.S. govern-

ment documents the public business is a formidable challenge to even the most determined researcher. Fortunately, NASA Headquarters and each NASA center have on their staff records management officers willing to help researchers with questions we may not be able to anticipate here.

By federal law, government "records" are defined as

> all books, papers, maps, photographs, machine-readable materials, or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government under Federal Law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government or because of the informational value of the data in them. Library and museum material made or acquired and preserved solely for reference or exhibition purposes, extra copies of documents preserved only for convenience of reference, and stocks of publications and of processed documents are not included.

The historian will, properly, want to examine evidence to be found in both the official record and non-record documents. As with all archival research, depending on each researcher's interest, there will either be a shortage or an abundance of both categories of documents; pursuing a line of inquiry through the thickets of documentary evidence is, however, at the heart of historical investigation and constitutes its chief challenge and its own reward.

When examining federal records, care must be taken to avoid disrupting file continuity and contributing to the loss of records. Records may be copied with permission and should be returned to their original location within a folder.

By law, each federal agency is required to retain or dispose of certain records according to a "schedule" (list of categories) approved by the Archivist of the United States (National Archives and Records Administration). The NASA Records Disposition Handbook (NHB 1441.1A) lists all categories of NASA records and indicates whether they may be destroyed or must be retained, for how long, and whether particular records will ultimately be transferred to the National Archives, where they will be appraised for their historic value and retained or destroyed. Records no longer in frequent use by a given NASA office will normally be transferred to Federal Records Centers located around the country to await eventual destruction or transfer to the National Archives.

### Using Current Records

NASA's current files may be examined by bona fide researchers, subject to restrictions imposed by law, such as control of security-classified information, proprietary information, and personnel data. The most efficient way for a researcher to see such information is to examine the NASA or field installation organization chart (available in the NASA History Division at NASA Headquarters) for the period being investigated, or otherwise determine which organizational unit administered the particular program or activity. Then the researcher should contact that office or its successor, either directly or through the History Division, identify the files or information sought, and make arrangements to examine the materials that are available and accessible.

Under the provisions of the Freedom of Information Act and Executive Order 12065, it is the responsibility of the government to make nonexempt documents available to all citizens expeditiously on request. Nevertheless, experience suggests that the most successful researchers in NASA records and files are those who appreciate the added burden they are imposing on officials and their staffs and who make reasonable arrangements as to time, place, and method of examining documents. After all, the personnel controlling the files are themselves invaluable research aids who harbor a wealth of information that never finds its way onto a printed page. Courteous and cooperative conduct toward a staff member may make of him or her an important ally. Where problems of

scheduling or access do arise, the History Division will try to be helpful.

### Using "Retired" Records

Retired records fall into two different categories, those that have been permanently accessioned by the National Archives and Records Administration (NARA) and those still controlled by NASA but stored at Federal Archives and Record Centers. The former are in the permanent custody of NARA and, though NASA may assist the researcher in identifying the documents required for each research project, arrangements for using them must be made directly by the researcher with NARA. Records still under NASA control but stored in Federal Archives and Records Centers may be recalled to the NASA History Division or other NASA offices as applicable.

The records of NASA and its predecessor agency, the NACA, constitute Record Group 255 within NARA. A selection of NACA records (60 cubic feet) is stored at the Archives Main Building, located five blocks from NASA Headquarters. The remainder (some 4,000 cubic feet) is stored at the Washington National Records Center, Suitland, Maryland, located about 20 minutes away. A complimentary shuttle bus to Suitland is available for researchers from the Main Building. Also stored at Suitland are the retired records of NASA Headquarters, Goddard Space Flight Center, and Langley Research Center. These records now occupy more than 100,000 cubic feet.

Each office in NASA Headquarters and the agency's centers retires its own records to a regional Federal Archives and Record Center at its own pace, using Standard Form (SF) 135, "Records Transmittal and Receipt." A file of copies of all Standard Form 135s is maintained by NASA records management officers, making the task of the historian in identifying records for use somewhat easier.

Some general caveats should be kept in mind when doing research in retired Federal records. The Records Transmittal and Receipt Form, SF-135, although the best inventory of most retired records of the NACA and NASA, is an imperfect document that often masks or confuses as much as it reveals. Seldom can the researcher expect to go directly from the forms to the desired records box or file. More often one will find in these forms a number of references to boxes that might contain useful information. It is then often best to go to the appropriate regional Federal Archives and Records Center to examine *in situ* all the boxes that might prove useful. Many leads will turn out to be disappointing, but boxes worthy of closer scrutiny may be recalled to NASA, at least for the records still under NASA control. Not only does this procedure minimize the time and expense involved in recalling a large number of boxes, it also helps to ensure the researcher at least a brief look at all the possible sources of material.

Approval for access to the records must always be obtained from the NASA employee responsible for maintaining them. NASA Management Instruction (NMI) 1382.2C, "Availability of Agency Records to Members of the Public," may apply. NMI 1382.2C is published in the Code of Federal Regulations, Title 14, Chapter V. Retired Headquarters records can be viewed at Suitland or recalled to Headquarters. To see the records at Suitland, prior arrangements must be made, including a letter to the Records Center from NASA. Often a security clearance is necessary. Researchers should plan at least two weeks in advance of their research visit for delivery when using items recalled from NARA to the NASA Headquarters.

Retired records recalled to the History Division at NASA Headquarters will remain in the custody of the office, which maintains a running file of all records on loan. Permission of the director of the History Division is required to retain recalled records for more than 60 days.

### Officials' Papers

NASA administrators and deputy administrators are presidential appointees; copies of most of their correspondence while in office are available in the NASA History Division or in the retired records. The papers of some former administrators have been donated to repositories: T. Keith Glen-

nan's (1958-1961) to the Dwight D. Eisenhower Presidential Library; James E. Webb's (1961-1968) to the Harry S. Truman, John F. Kennedy, and Lyndon B. Johnson Presidential Libraries, depending on the period; Thomas O. Paine's (1968-1970) to the Library of Congress; and James C. Fletcher's (1971-1977) to the University of Utah.

The papers of Dr. Hugh L. Dryden, NASA's first deputy administrator (1958-1965), have been donated to The Johns Hopkins University, while those of George M. Low, deputy administrator between 1970 and 1976 are at Rensselaer Polytechnic Institute. Wernher von Braun, leader of the rocket team that developed the Saturn V, has a large collection of papers at the Library of Congress. The Virginia Polytechnic Institute's Archives of American Aerospace Exploration also has significant collections of papers of senior NASA officials including astronaut Michael Collins and Christopher Kraft, the Manned Spacecraft Center director in the 1960s. A useful source in identifying primary source materials is Cloyd D. Gull and Charles L. Smith, eds., *A Directory of Sources for Air and Space History: Primary Historical Collections in United States Repositories* (National Air and Space Museum, Smithsonian Institution, 1989).

### Oral History

Personal interviews can be important sources of historical evidence for recent events. Of course the testimony of participants must be weighed judiciously against other evidence, but in a time when the telephone is eliminating many written communications, and concern about public disclosure through the Freedom of Information Act is preempting still others, scholars are coming to rely more heavily than ever on participants' recollections. Thorough preparation before the interview and independent verification of the testimony of the interviewee can go a long way toward reducing the hazards traditionally associated with this research technique.

NASA's enabling legislation, the National Aeronautics and Space Act of 1958, requires the agency to "provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof." This statutory obligation and NASA's civilian character have resulted in an agency commitment to "openness." In keeping with this commitment, the NASA History Program supports the position of the American Historical Association, which opposes any restrictions on open access to federal documents and information, *including* oral interviews, subject only to national security and Privacy Act exemptions to the Freedom of Information Act. Neither NASA employees, nor historians working under NASA sponsorship, may legally, or as a matter of policy, restrict access to an oral interview tape or transcript as a condition of conducting an interview.

# 8

# DOCUMENTARY RESOURCES AT NASA HEADQUARTERS

The NASA History Division will be located after May 1992 at Headquarters NASA in Washington, DC, Two Independence Square. This is on the corner of 4th and "E" streets, Southwest, overlooking the Southwest Freeway. The closest Metro stop is Federal Center, Southwest. The mail address is: NASA History Division, Code ADA-2, NASA Headquarters, Washington, DC, 20546. Telephone: (202) 453-8300. The office is open from 8:00 a.m. to 4:30 p.m., Monday through Friday, except federal holidays.

The History Office staff consists of:

Roger D. Launius, Director
John D. Hunley, Historian
Aaron K. Gillette, Historian
Lee D. Saegesser, Technical Information Specialist
Patricia A. Shephard, Program Support Assistant
William S. Skerritt, Contractor

Each can provide guidance and assistance. For general historical queries, it is usually best to start with Mr. Saegesser.

The principal holdings of the History Division are the historical documents collections, more than 1,000 cubic feet of primary and secondary materials. Included are periodical clippings, press releases, reports, correspondence, and oral-history interview transcripts. Like most NASA records, almost all of this material is unclassified.

Approximately 200 unpublished historical studies prepared under the auspices of the NASA History Division are kept on file and classified in three series: NASA Historical Monographs (HHM), Reports (HHR), and Notes (HHN). Some of these have subsequently appeared as published histories.

Also on file are copies of most post-1958 congressional publications dealing with aeronautics, astronautics, and related fields. These are filed chronologically according to an assigned code number. The date of publication or the date on which hearings began is used as the basis of a six-digit code for the year, month, and day, in that order. A suffix denotes a House or Senate document. For example, 68-0312H identifies a House document of 12 March 1968. Congressional publications not available in the History Division may be obtained through the NASA Office of Legislative Affairs.

The NASA History Division has been engaged since 1988 in an ongoing effort to automate the finding aids for its holdings. A database system is now available for researchers for two major collections in these holdings: for biographical materials filed by name and for the papers of the NASA Administrators. Approximately 130 linear feet of material can now be accessed using this system.

### Scientific and Technical Information

The Center for Aerospace Information maintains a complex aerospace-information acquisition, indexing, announcing, and retrieval system. At its heart is a computer bank at Linthicum Heights, Maryland, near the Baltimore Washington International Airport that stores more than 3 million citations to journal, report, and related aerospace literature from around the world. This bank is part of an on-line, time-shared system connected to more than 30 RECON (REmote CONsole) computer terminals around the United States, two of which are at NASA Headquarters and at least one is located at each NASA center. Using one of these terminals a researcher can query the computer by date, subject, author, contract

number, etc., to find specific citations or bibliographies for a whole field. Only a brief introduction to the system is required; the inexperienced user can neither disrupt the system nor interfere with users at other terminals.

For most citations in the computer, a printed abstract is published in one of two semimonthly NASA journals: STAR (Scientific and Technical Aerospace Reports) and IAA (International Aerospace Abstracts). STAR covers worldwide report literature on space and aeronautics, and IAA provides similar coverage of scientific and trade journals, books, and papers presented at conferences. Using the computer to search and locate, and the published abstracts to evaluate the potential usefulness of documents, a researcher can select those items most productive for extended review. Abstracts for 1971 and subsequent years are available through RECON, along with document citations. Approximately 15% of NASA-generated scientific and technical information is printed and may be ordered from the Government Printing Office or the National Technical Information Service (NTIS). The remaining 85% is available on microfiche or as blow-back from fiche at NTIS, all NASA libraries, and selected public and special libraries. A listing of these libraries appears in STAR.

In addition to this major data base, maintained by NASA since 1961, several others can be accessed. Banks such as that of the Defense Documentation Center and the Machine Readable Catalogue (MARC) collection of scientific and technical books at the Library of Congress are available to RECON users. And on trial or exchange basis, information from other agencies (e.g., NOAA and DOE) and numerous private organizations is available to users of the system.

Most of the literature in the Scientific and Technical Information System is just that: scientific and technical. However, it includes occasional surveys, reports, and even histories that can be useful to historians. This is especially true, of course, of preliminary studies of scientific and technical projects, as well as summaries of results achieved. But even in such areas as management and international space law, much is available.

### Libraries

Numerous specialized libraries exist in or near NASA Headquarters. Their aggregate resources are useful for almost any research need related to NASA.

The Headquarters Scientific and Technical Library carries a wide range of other material. It has a small sampling of newspapers and general magazines and a much larger selection of specialized periodicals in the fields of science, technology, and management. Most periodical runs begin in the late 1950s or early 1960s, but some from the NACA's library stretch further back. The reference section is strongest on government publications and general guides to materials in aerospace and related fields. The shelved volumes are few and from restricted fields, but there are still many of interest to historians. Interlibrary loan provides access to other NASA libraries, the Library of Congress, and the libraries of other federal agencies.

Other libraries in the area also contain many resources of use to NASA historians. The library at Goddard Space Flight Center, just outside Washington, one of the best center libraries in NASA, is an especially useful source of information for historians of NASA. The Library of Congress is open to all researchers, and its holdings are unparalleled but for outsiders often difficult to use. Delivery of volumes to the reading room is slow (45 minutes or more after request is submitted); stack passes are hard to come by. In general the library is best for those items such as manuscripts or rare books that cannot be reached through other sources. For some specialized topics, the staff can be helpful. The Science and Technology Reading Room in the Jefferson Annex has its own card catalogue, reference section, and experienced staff.

The library of the National Air and Space Museum, on the Mall at Independence Avenue, is strong on the documentation of artifacts related to aerospace history. The NASA History Division cooperates closely with this museum and can direct

researchers to the proper staff member for specific requests.

The library of the Department of Transportation (DOT) is two blocks from the NASA History Division. With open stacks, it is in many respects the most useful general library in the area. It consists of the former libraries of the Coast Guard and the Bureau of Public Roads, but it has wider holdings than that heritage would suggest. It has been a national depository library since 1968.

The library of the Federal Aviation Administration (FAA) is administratively an annex to the DOT library, but operates separately. The FAA library has a much better collection of aviation literature than NASA. Also located three blocks from the NASA History Division, the FAA library has open shelves and a few unreserved desks for the use of researchers.

Two other national depository libraries are contiguous to NASA Headquarters. The library of the Department of Health and Human Services (HHS) is located at its headquarters on 4th Street. The library of the Department of Housing and Urban Development (HUD) is near L-Enfant Plaza. There are 23 other federal depository libraries within the District of Columbia.

### Individual NASA Offices

The Office of Public Affairs regularly prepares press releases, press kits, and public information brochures. Of course, such documents must be used circumspectly by the historian; their purpose, after all, includes public relations as well as dissemination of information. But with this caveat in mind, they can be useful sources. The releases, for example, often serve as the official public announcement of a program, decision, or international agreement. The Audio Visual Section also maintains files of still photographs, motion pictures, and tape recordings.

Since the founding of NASA, the Office of the General Counsel has selected important documents for retention and indexing. These are coded by key word and placed on the computer-based Legal Information Retrieval Systems (LIRS). Though primarily intended for legal research, the collection contains much useful historical documentation. The system is available to researchers with the permission of the General Counsel.

The Graphics and Management Presentations Branch of the Headquarters Administration Division maintains a file of photographs, charts, drawings, and other visual aids used in Headquarters.

Research on specific topics often can best be pursued in the responsible Headquarters office. Each office maintains inventories of its retired records; often the person who initially retired the records is still on the job and can expand upon the information on the inventory forms. Moreover, many offices keep files on a project until it is completed. This means that active files may go back for years and contain material one would expect to find among the retired records. Policy varies from office to office, and the only sure way is to check. Lastly, the researcher may want to interview participants.

# 9

# NASA HEADQUARTERS HISTORY DIVISION

# DOCUMENTS COLLECTION

The NASA History Division's documents collection originated shortly after the creation of NASA. The various series described below were originally designed to facilitate research for the major serial publication, *Astronautics and Aeronautics*, but have since evolved into a functional system. The total volume of material amounts to more than 1,000 cubic feet (not counting books), plus some 395 cubic feet stored in the Federal Archives and Records Center, Suitland.

### White House and Presidential Papers 22 feet (1958 to date)

Includes documents pertaining to Presidents Hoover through Reagan, the Executive Offices, and various commissions and councils that serve the president; selected papers from the *Weekly Compilation of Presidential Documents*, newspaper and *Congressional Record* clippings; magazine articles; photographs; and NASA correspondence. Arranged by organization or president and thereunder chronologically. Listed below are the amounts of material under each president, with inclusive dates. A general grouping of non-White House material, 6 feet, includes such organizations as the President's Science Advisory Committee (PSAC) and the National Aeronautics and Space Council (NASC).

Hoover, negligible amount (1963 to date)
Roosevelt, negligible amount (1942 to date)
Truman, 2 inches (1952 to date)
Eisenhower, 1 foot (1947 to date)
Kennedy, 2 feet (1957 to date)
Johnson, 4 feet (1957 to date)
Nixon, 4 feet (1957 to date)
Ford, 8 inches (1963 to date)
Carter, 1 foot (1976 to date)
Reagan, 3 feet (1981 to date)
Bush, 2 feet (1987 to date)

### Aeronautics and Space Report of the President 1 foot (1958 to date)

These yearly reports submitted by the president to the Congress are arranged chronologically. From 1976 to 1983 the History Division was responsible for preparing this report. Beginning in 1986, to date, the History Division again took over this responsibility. Information contained in these reports cuts across agency boundaries to consider broadly the issues of air and space technology.

### Congressional Documents, 25 feet (1918 to date)

Arranged by committee and thereunder chronologically. The loose documents are newspaper clippings, magazine articles, *Congressional Record* clippings, brochures, photographs, correspondence, and the *NASA Legislative Activity Reports* (1962 to date). Most of the material is bound committee reports, hearings, special studies, etc., covering the period 1957 to date. These hearings and reports are shelved separately in chronological order.

### NASA Semiannual Report to Congress (1958 to 1969)

These reports and related materials are arranged chronologically. The requirement for this report was deleted from the original National Aeronautics and Space Act of 1958 by Public Law 92-68 (85 Stat. 174, 6 Aug. 1971). This is a useful source for

determining the major issues being considered during any specific period.

**Federal Agencies, 30 feet (1950 to date)**

Arranged alphabetically by name of federal agency, and thereunder chronologically. It consists of photographs, newspaper clippings, magazine articles, reports, correspondence, news releases, brochures, *Congressional Record* clippings, and agreements between NASA and other federal agencies.

**National Academy of Sciences, Space Science Board, and National Academy of Engineering, 4 feet (1957 to date)**

Arranged chronologically. Consists of news releases, newspaper clippings, magazine articles, reports, brochures, pamphlets, correspondence, and the *NAS Newsreport* (a monthly newsletter).

**Organizations, National and International, 5 feet (1955 to date)**

Arranged alphabetically by name of organization and thereunder chronologically. Consists of booklets, brochures, news releases, magazine articles, newspaper clippings, photographs, speeches, and monographs. Included under the international organizations are subseries pertaining to international law, agreements, treaties, and conventions.

**Foreign Countries, 35 feet (1800 to date)**

Divided into two subseries: U.S. cooperation with other countries, and the countries themselves. Alphabetical by name of country and thereunder chronological. The series consists of newspaper and magazine articles, speeches, news releases, translations, brochures, pamphlets, correspondence photographs, and *Congressional Record* clippings.

One of the large groupings consists of material pertaining to the USSR and its space activities, with heavy emphasis on translations. This grouping includes a general subject file of 15 feet on Soviet manned and unmanned satellites, arranged alphabetically. Topics: Sputnik, Lunik, Venera, Molniya, Soyuz, Voskhod, Buran, space station, Mir, launching facilities, etc.

**Industry, 10 feet (1945 to date)**

Alphabetically by name of company and thereunder chronologically. Consists of news releases, magazine articles, newspaper clippings, speeches, photographs, correspondence, brochures, annual reports, and *Congressional Record* clippings. Such classic industry reports as the RAND satellite and High Altitude Test Vehicle (HATV) studies are to be found in this series.

**Organization and Management, 85 feet (1910 to date)**

Includes organization charts, briefing memorandums, correspondence, internal and external studies, photographs, NASA insignias, newspaper clippings, magazine articles, news releases, speeches, brochures, telephone books, congressional testimony, *Congressional Record* clippings, *Program Reviews General Management Reviews* (1961 to date), *Calendar of Appointments* (1969 to date), and NASA Headquarters Weekly Bulletins (1965 to date).

A large subseries in this grouping consists of papers of the NASA Administrators and Deputy Administrators. They are listed below chronologically with the dates of their service. The parentheses enclose the dates of the papers on file. Also listed is the amount of material.

Administrators:

Glennan, Dr. T. Keith, 1958-1961 (1954 to date) 7 feet

Webb, James E., 1961-1968 (1952 to date) 6 feet

Paine, Dr. Thomas O., 1968-1970 (1966 to date) 3 feet

Fletcher, Dr. James C., 1971-1977, 1986-1989 (1969 to date) 6 feet

Frosch, Dr. Robert A., 1977-1981 (1977 to date) 1 foot

Beggs, James M., 1981-1986 (1968 to date), 1 foot

Truly, Richard H., 1989- (1968 to date) 1 foot

Deputy Administrators:

Dryden, Dr. Hugh L., 1958-1965 (1910 to date) 6 feet
Seamans, Dr. Robert C., 1965-1968 (1960 to date) 3 feet
Low, Dr. George M., 1969-1976 (1958 to date) 10 feet
Lovelace, Dr. Alan M., 1976-1981 (1965 to date) 2 inches
Mark, Dr. Hans, 1981-1984 (1970 to date) 6 inches
Graham, Dr. William R., 1985-1986 (1985 to date) 1 inch
Myers, Dale D., 1986-1989 (1953 to date) 6 inches
Thompson, James R., Jr., 1989-1991 (1986 to date) 1 inch

**Budget Documentation, 18 feet (1958 to date)**

Arranged chronologically. Consists of budget briefings, newspaper clippings, magazine articles, correspondence, news releases, speeches, *Congressional Record* clippings, *NASA Budget Estimates*, chronologies of NASA budget submissions, and *The Budget of the United States Government*. A complementary source for budgetary materials will be found under *Congressional Documents*.

**NASA Headquarters, 70 feet (1958 to date)**

Arranged by major office within NASA Headquarters and thereunder chronologically. Consists of office publications, brochures, news releases, magazine articles, newspaper clippings, speeches, photographs, external and internal studies, correspondence, and organizational charts. Listed below are the organizations for which there is documentation. Some of these offices are no longer in existence.

Legislative Affairs
International Affairs
General Counsel
Policy
Applications
Public Affairs
Administration
Technology Utilization
Space Sciences
External Affairs
Center Operations
Space Transportation Operations
Space Transportation Systems
External Relations
Exploration
Aeronautics and Space Technology
Procurement
Industry Affairs
Comptroller
University Affairs
Special Contracts Negotiations
DOD and Interagency Affairs
Program Plans and Analysis
Space Flight
Space Operations
Space Systems Development
Tracking and Data Acquisition
Inspector General
Management
Chief Engineer
Chief Scientist

The bulk of the material is to be found under Public Affairs, which issues news releases and a newspaper clipping collection, "Current News."

**NASA Centers, 34 feet (1958 to date)**

Arranged alphabetically by name and thereunder by subseries and chronologically. Consists of photographs, organizational charts, newspaper clippings, magazine articles, correspondence, brochures, news releases, center newspapers, and telephone books.

Some installations have been renamed, disestablished, reorganized, or separated from NASA. Listed below are the installations for which there is documentation.

Ames Research Center
Dryden Flight Research Facility
Electronics Research Center
Goddard Space Flight Center
Jet Propulsion Laboratory
Johnson Space Center
Kennedy Space Center
Langley Research Center
Lewis Research Center
Marshall Space Flight Center
Michoud Assembly Facility

National Space Technology Laboratories
Stennis Space Center
Wallops Flight Center
Western Operations Office

**Unmanned Programs, Projects, and Satellites, 70 feet (1945 to date)**

Arranged in three major subseries, each of which is arranged alphabetically and thereunder chronologically. Consists of photographs, correspondence, news releases, newspaper and *Congressional Record* clippings, magazine articles, brochures, mission operation reports, and translations.

The first subseries consists of programs and activities such as communications, meteorology, lunar and interplanetary contamination, balloons, zeppelins, sounding rockets (arranged alphabetically by name), flight schedules, and the Goddard Space Flight Center *Spacewarn Bulletin.*

The second subseries pertains to lunar and interplanetary flight. Listed below are the spacecraft to be found in this grouping.

CRAF
Cassini
Galileo
Grand Tour
Lunar Orbiter
Magellan
Mars Observer
Mariner
Out of the Ecliptic
Pioneer
Ranger
Sunblazer
Surveyor
Ulysses
Viking
Voyager

The third subseries is made up of earth-orbiting satellites.

Able
Aeronautical satellite
Aeros
Alouette
Anik (Telesat-Canada)
ANS (Astronomical Netherlands Satellite)
Ariel
ATS (Applications Technology Satellite)
Azur
Beacon
Biosatellite
CAS-C (Cooperative Applications Satellite, Canada)
Comstar
Direct Broadcast
Earth Resources Satellite
Echo
EOS
Explorer
Gamma Ray Observatory
GEOS
GOES
G Star
HEAO
Helios
HEOS
Hubble Space Telescope
Injun
IntaSat
Intelsat
ISIS
Landsat
Marisat
NATO
Nimbus
NOAA
OAO
OGO
OSO
Pageos
Pegasus
RCA
Rebound
Relay
San Marco
Satellite Power System
Satellite Repair Satellite
Search and Rescue Satellite
Seasat
Skynet
Small Observatory Satellite
Snapshot
Solar Powered Satellite
Solar Radiation Satellite
Sphinx
Sunflower
Symphonie
Synchronous Meteorological Satellite
Syncom

TD-1A
Telstar
Tethered Satellite
Tiros
Tracking and Data Relay Satellite
UARS
United Kingdom
Vanguard
Westar

**Manned Spaceflight, 150 feet (1953 to date)**

Arranged chronologically by project and thereunder topically and chronologically. Composed of news releases, speeches, newspaper and *Congressional Record* clippings, magazine articles, photographs, correspondence, reports, brochures, pamphlets, translations, and mission operation reports. (15 cubic feet, pertaining to Skylab, retired to the Federal Records Center, Suitland.) Other topics: Mercury, Gemini, Apollo, Apollo-Soyuz Test Project (ASTP), Space Shuttle, Lunar Stations, Space Stations, Planetary Flight, and Space Colonization.

**Space Station**

Materials documenting the history of the U.S. Space Station program are collected as part of the Space Station History Project. Located in an annex to the NASA History Division, the collection is divided by subject and organized chronologically. Because the Space Station History Project is an on-going documentation effort, the number of documents and subject classifications is continuously expanding. The principal files of the collection contain approximately 50 cubic feet of documents on space station history. These documents include photos, selected correspondence and reports dating from 1958 to the present, as well as a number of articles and reports concerning the history of the space station concept. A list of the contents of the Space Station Historical Documents Collection is available for use in the History Division.

**Launch Vehicles, 26 feet (1945 to date)**

Arranged alphabetically by name of vehicle and thereunder chronologically. Consists of correspondence, reports, brochures, news releases, speeches, magazine articles, newspaper clippings, *Congressional Record* clippings, studies, and photographs. Such reports as the 1959 National Space Vehicle Program, 1960 Long Range Plan, and 1962 Golovin Report (Large Launch Vehicle Planning Group) are included. Files exist for the following launch vehicles:

Agena
Atlas
Atlas II
Atlas-Able
Atlas-Agena
Atlas-Centaur
Blue Scout
Centaur
Delta
Hermes
HLLV
Iris
IUS
Juno 11
Little Joe
Orbital Maneuvering Vehicle
Nova
Pegasus
Saturn I
Saturn IB
Saturn V
Scout
Shuttle
Thor
Titan
V-1
V-2
Vega

**Space Sciences, 10 feet (1851 to date)**

Arranged topically and thereunder chronologically, with such folders as astronomy, pulsars, radio astronomy, x-ray, radar, quasar, black holes, comets, meteors, the sun, the planets, planetary satellites, geodesy, oceanography, physics, aurora borealis, air pollution, and energy. Series consists of monographs, brochures, news releases, newspaper and *Congressional Record* clippings, magazine articles, translations, photographs, correspondence, and studies.

**Life Sciences, 3 feet (1958 to date)**

Material pertaining to exobiology, space medicine, extraterrestrial life, and various NASA studies on life sciences arranged topically and thereunder chronologically. Series consists of newspaper clippings, magazine articles, correspondence, photographs, studies, brochures, pamphlets, news releases, and NASA special publications.

**General Space Research, Propulsion, and Reentry, 9 feet (1956 to date)**

Arranged topically and thereunder chronologically. Consists of news releases, photographs, correspondence, newspaper and *Congressional Record* clippings, magazine articles, speeches, brochures, pamphlets, and special studies. Included are such topics as avionics; guidance; materials; space processing; chemical, liquid, solid, and nuclear propulsion; the various reentry projects; and orbital debris.

**Tracking and Data Acquisition, 4 feet (1957 to date)**

Arranged topically and thereunder chronologically. Series consists of correspondence, photographs, newspaper and *Congressional Record* clippings, magazine articles, news releases, brochures, and pamphlets.

**Biography File, 110 feet (1800s to date)**

Arranged alphabetically by name of person and thereunder chronologically. Series is composed of photographs, correspondence, news releases, magazine articles, newspaper clippings, and speeches. Included are U.S. and foreign space personalities, both living and dead. For related material see the subseries NASA Administrators and Deputy Administrators, under *Organization and Management*.

**Aeronautics, 22 feet (1945 to date)**

Arranged by topic and thereunder chronologically. Composed of photographs, newspaper and *Congressional Record* clippings, magazine articles, news releases, reports, studies, correspondence, brochures, and pamphlets. Included are such topics as transportation, statistics, wind tunnels, B-70, helicopters, NASA aircraft, remotely piloted vehicles, fly-by-wire, supercritical wing, Agplane, vertical- and short-take-off-and landing, supersonic transport, Concorde, X-1 through X-29, lifting bodies, hydroplaning, aircushion vehicles, and hydrofoils.

**Miscellaneous material, 310 feet (1825 to date)**

Arranged topically and thereunder chronologically. Includes news releases, reports, newspaper clippings, cartoons, magazine articles, NASA issuances, photographs, correspondence, studies, reports, brochures, and pamphlets. Listed below are some of the topics together with the dates covered and the amount of material available.

NASA Management Issuances, microfiche (1958 to date)

Space-related cartoons, more than 7500; 6 feet (1825 to date)

NACA correspondence collection, 8 feet (1915 to 1958)

Transition papers, 1 foot (1958 to date)

Other histories, arranged alphabetically by name of author, 7 feet (1958 to date)

USAF, Navy, Army, FAA monographs, brochures; 2 feet (1945 to date)

Chronologies, 3 feet (1945 to date)

Bibliographies, 3 feet (1958 to date)

Awards, NASA and others, 3 feet (1909 to date)

Museums, 3 feet (1958 to date)

Apollo documentation collected by Robert Sherrod, 36 feet (1960-1978)

Early history of NASA, documentation collected by Eugene Emme, 7 feet (1950s-1978)

Newspaper clipping collection, 4 feet (1948-1959). (This series separate from *Current News*).

Impact file, consisting of such topics as criticism of space activities and influence of the space program

on economics, humor, military, movies, music, philately, public opinion, religion, technology, television, toys, etc., 14 feet (1950 to date)

Interviews, many transcribed and filed in *Bibliography File*

*Satellite Situation Report* prepared by Goddard Space Flight Center, 4 feet (1959 to date)

Conferences, 1 foot (1961 to date)

Incomplete collection of NASA Special Publications, 6 feet (1961 to date)

Naval Research Laboratory reports, 1 foot (1947-1959)

Papers of Dr. John E. Naugle, NASA associate administrator for space science, 14 feet; microfiched in 1986 (1960-1977)

Management studies done by NASA, 5 feet (various dates)

Other Headquarters History Division documents have been retired to the Federal Records Center, Suitland, Maryland. This material can be recalled by the History Office for use by researchers. Listed below are some of the more important series.

Papers of Dr. James C. Fletcher and Dale D. Myers, administrator and deputy administrator, 15 feet (1986-1989)

Papers of Dr. Alfred J. Eggers, assistant administrator for policy, 20 feet (1957 to 1967)

Papers of Dr. George M. Low, deputy administrator, 5 feet (1958 to 1961)

Selected chronological reading files of many NASA Headquarters offices

Life sciences papers collected by Dr. Mae M. Link, 6 feet (1958 to 1970)

Electronics Research Center files, 18 feet (1963 to 1969)

Administrator's Office Chronological Reading files, 34 feet (1962 to date)

Space Task Group (post Apollo), 1 foot (1969)

Viking history collection, 26 feet (1960 to date)

# PART IV

# SOURCES OF NASA HISTORY AT THE CENTERS

# 10

# HISTORICAL RESEARCH AT NASA CENTERS

Records retirement a t the NASA centers follows the same procedure as at headquarters. The major difference is that the federal records centers are seldom as close to the NASA centers as Suitland is to headquarters. While centers can recall their records from the records centers, it is often better for researchers to visit the records centers themselves, especially if they need to examine a large amount of material. The records management officers at individual centers can make arrangements.

### History Representatives

All of NASA's field centers have historical monitors who supervise the administration of historical resources and assist researchers. The names and addresses of these history representatives follow:

J. Paul Bennett
Ames Research Center (ARC)
Moffett Field, CA 94035
(415) 694-5000

Ed Schneider
Dryden Flight Research Facility (DFRF)
P.O. Box 273
Edwards, CA 93523
(805) 258-3311

Janet K. Ruff
Goddard Space Flight Center (GSFC)
Greenbelt, MD 20771
(301) 344-7000

Dr. Michael Q. Hooks
Archivist and Records Manager
Mail Stop 512-110
Jet Propulsion Laboratory (JPL)
4800 Oak Grove Drive
Pasadena, CA 91109
(818) 397-7674

Janet Kovacevich, Archivist
JM12/History Office
Lyndon B. Johnson Space Center (JSC)
Houston, TX 77058
(713) 483-6715

Ken Nail, Archivist
John F. Kennedy Space Center (KSC)
Code NWSI-E
Kennedy Space Center, FL 32899
(305) 867-2407

Richard T. Layman
Code 123
Langley Research Center (LRC)
Hampton, VA 23665
(804) 864-3441

Sherree L. Sievert
Mail Stop 60-1
Lewis Research Center (LeRC)
21000 Brookpark Road
Cleveland, OH 44135
(216) 433-5785

Mike Wright
Code CN22
George C. Marshall Space Flight Center (MSFC)
Huntsville, AL 35812
(205) 544-6840

Mack R. Herring
John C. Stennis Space Center (SSC)
AAOO/History
Stennis Space Center, MS 39529-6000
(601) 688-2643

Keith Koehler
Code 130.4
Wallops Flight Facility (WWF)
Goddard Space Flight Center
Wallops Island, VA 23337
(804) 824-1579

## Center Collections

The organization of historical resources varies from NASA center to NASA center. Some deserve special comment.

*Jet Propulsion Laboratory*: Located in Pasadena, California, this facility is staffed and operated under contract to NASA by the California Institute of Technology. The lab has an extensive historical collection which has been well-maintained and organized for use. It has complex access requirements; researchers should contact the archivist well in advance of any visit.

*Johnson Space Center*: This organization has an extensive and well-organized archives that is, understandably, strongest on the history of human spaceflight. A significant portion of this material is at the Woodson Research Center, Rice University in Houston.

*Kennedy Space Center*: A well-defined set of materials, focusing on launch operations, are maintained by the archivist as an adjunct to the center library.

*Langley Research Center*: First established at Hampton, Virginia, in 1917, this center has unparalleled historical materials in the history of early aeronautical research and development and most recent space efforts such as the Viking lander.

*Lewis Research Center*: Founded in 1941, this center located in Cleveland, Ohio, has recently begun efforts to systematize its historical materials for preservation and use. Materials are located either at the center proper or at its Plum Brook Station, located on Lake Erie near Sandusky, Ohio.

*Marshall Space Flight Center*: This collection has matured over the years into a well-organized set of materials specializing on Marshal institutional history and the development of rocketry.

*Stennis Space Center*: Established in southern Mississippi near New Orleans, this center gradually evolved from a rocket engine test facility to its present emphasis on practical applications technology. The center's History Office maintains a set of materials useful in research.

## Access Policy

All of the NASA centers located throughout the United States are restricted government installations. To gain access non-official researchers must obtain visitor badges, and if driving, a vehicle pass at the entrance gate to each center.

U.S. citizens are requested to contact each history office or archives a minimum of four weeks prior to arrival. This will ensure that materials needed for research will be available and that any access requirements can be met beforehand. In addition to it being courteous, it will help historians to use their research time more productively.

Letters informing NASA history personnel of a research visit should include the following information:

1. Full name
2. Current address
3. Current telephone number
4. Description of research objective and materials needed for review, if known
5. Date(s) researcher would like to visit center
6. Agency/university/company affiliation, if any
7. Social security number (required by Kennedy Space Center)

Access procedures and costs of copying materials vary according to center policy. For example, JPL considers all papers internal documents and requires that they be reviewed and cleared for external release before then can be used by outside researchers. Historical materials may be consulted only during normal working hours at the individual NASA centers.

# 11

# HISTORICAL MATERIALS AT THE JET PROPULSION LABORATORY, CALIFORNIA INSTITUTE OF TECHNOLOGY

Mail: Archives (Mail Stop 512-110), Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, CA 91109-8099

Location: Archives, Building 512, Room 103

Hours of Operation: 7:30 a.m. to 4:45 p.m., Pacific Time Zone, Monday-Friday

Contact: Michael Hooks, Archivist, and Julie Reiz, Assistant Archivist

Telephone: (818) 397-7674; Fax: (818) 397-7121; FTS: 797-7674

The Jet Propulsion Laboratory (JPL) of the California Institute of Technology (Caltech) is a federally funded research and development center operating under contract to the National Aeronautics and Space Administration (NASA). As NASA's lead center for deep-space exploration, JPL is responsible for the unmanned planetary missions for the United States. JPL's contributions to the exploration of the solar system include participation in Earth-orbital projects and experiments, as well as studies of stellar systems and extra-solar-system bodies. Other sponsors for whom JPL performs work includes the Department of Defense (DOD), Federal Aviation Administration (FAA), and the Department of Energy (DOE).

In April 1989, the JPL Archives was established to document the history of the Laboratory's flight projects, research and development activities, and administrative operations from its beginnings in the late 1930s to the present. Recently accessioned materials include records from the following flight projects and program offices: Ulysses, Galileo, Magellan, Voyager, Mars Observer, and the Deep Space Network. The format of the material in the Archives includes paper, machine readable records (microform and electronic media), and film products.

Documents are arranged by record group according to the project, program, or office. Processed record groups include: Ulysses Project, Magellan Project, Galileo, Voyager, Mars Observer, Viking, and former director's Drs. William Pickering and Bruce Murray. In addition, the Archives contains the History Collection, an artificial collection pertaining to the development of the Laboratory and its projects. Documents include material on the V-2 rocket, Corporal missile, Army ordnance, and other aspects of the early years of the space program, as well as such NASA programs as Ranger, Surveyor, Mariner, and Apollo. The History Collection also contains biographical information on JPL and Caltech personnel. Finding aids for processed records are available to researchers. The History Division at NASA Headquarters, Washington, D.C. has a copy of the History Collection index for reference use. Processed records are available for research use by JPL and NASA personnel, contractors, and the general public. All JPL records are considered internal documents, but are accessible to researchers from the public once they have been reviewed and cleared for external release.

In addition to documenting JPL's history through the preservation of written records, the Archives has also developed an oral history program. Interviews with current and former JPL employees are recorded on audiotape, which are then transcribed and made available for research use. The combination of documentary materials and oral interviews provide a comprehensive record of JPL's administrative operations, planetary exploration, and numerous scientific and engineering disciplines.

New accessions are being added to the Archives' holdings on a continuous basis; therefore researchers are encouraged to contact the Archives to inquire about recently processed records.

**Instructions for Public Access**

To gain access to the Jet Propulsion Laboratory Archives, researchers are asked to comply with the following procedures:

1. Researchers from the general public are allowed to use the Archival finding aids to locate records pertinent to their research topic. *All records are considered internal documents and must be reviewed and cleared for external release before they can be distributed to the public. The review process takes approximately two weeks.*

Once the records have been cleared for external release, the Archives will notify the researcher. The Archives charges a photocopying fee of 6 cents per page. Photocopying orders must be pre-paid to CALTECH. No cash can be accepted.

2. Researchers are requested to notify the Archives by mail or telephone in advance of a planned visit.

3. Letters should contain the following information about the researcher and proposed research project: (a) name; (b) current address; (c) phone number; (d) description of research topic; (e) purpose of research; (f) date(s) of visit; (g) citizenship, or naturalization.

# 12

# HISTORICAL MATERIALS AT THE JOHNSON SPACE CENTER

Mail: NASA-Johnson Space Center, JM12/History Office, Houston, TX 77058

Location: History Office Documents Collection, Building 420, Room 105

Hours of Operation: 8:00 a.m. to 4:30 p.m., Central Time Zone, Monday through Friday

Contact: Joey Kuhlman or Janet Kovacevich, Archivists

Telephone: (713) 483-6715; FAX: (713) 483-2726; FTS: 525-6715

A substantial number of the Johnson Space Center's historical documents are housed at the Woodson Research Center at Rice University (see below). The center is located on the first floor of the Fondren Library at Rice University. Office hours are 9:00 a.m. to 5:00 p.m., Central Time Zone, Monday through Friday. Mail address: Woodson Research Center, Fondren Library, Rice University, P.O. Box 1892, Houston, TX 77251. Telephone: (713) 527-8101 Ext. 2563.

### General Information

The Johnson Space Center History Office's documents collection contains materials covering thirty years of NASA's human spaceflight activities. It contains approximately 2600 linear feet of documents from government, industry and other sources. The collection is arranged in several series by program: Mercury, Gemini, Apollo, Skylab, Apollo-Soyuz Test Project, Space Shuttle and Space Station. In addition, a Center Series contains materials related to the organization, management and functions of JSC and its line organizations and temporary program/project offices. Smaller groups of General Reference materials and vertical files are available for quick reference purposes.

A Memorandum of Understanding between the Johnson Space Center and Rice University permits the transfer on indefinite loan of selected documents to the Woodson Research Center, Rice University Library. The Woodson Research Center currently administers some 1000 linear feet of Johnson Space Center historical documents from early manned spaceflight programs.

Initial inquiries regarding any Johnson Space Center historical collections should be addressed to the Johnson Space Center History Office. Public access to the History Office is by appointment only.

### Finding Aids

Traditional written guides to each of the series described below are available for browsing in the JSC History Office. These guides may also be searched electronically for specific items or subjects of interest to the user.

Also available is a growing index of correspondence files that can be searched electronically by date, number, author, office or origin, type of document, title and keywords. The staff of the JSC History Office will conduct database searches upon request.

Following is an abbreviated description of the materials available in the collection.

### Mercury Series (52 Feet)

Chronological files, including correspondence, meeting minutes, and project reports generated by the NACA, NASA, and the Space Task Group, 1951-1967.

Mission Related Documents, including post-launch reports, mission reports, technical information summaries, press kits, flight plans, and recovery documents for Little Joe, Mercury-Redstone and Mercury-Atlas missions.

Capsule Coordinating Committee meeting minutes, 1959-1960.

Interim and Quarterly Status Reports, 1959-1963.

Reel-to-reel and cassette tapes covering subjects such as mission simulations, press briefings, air-to-ground communications and interviews.

McDonnell Aircraft Familiarization Manuals describing capsule systems and major components, 1959-1963.

Contractor reports and documents, including materials from Convair, Douglas, General Dynamics, Grumman, Lockheed, McDonnell, Martin, North American, Northrop and others, 1958-1964.

Working papers, numbered 100-234. For a complete list of authors and titles, see *This New Ocean: A History of Project Mercury*, SP-4201, pp. 610-617.

Photographs and drawings, including those used to illustrate *This New Ocean* and a group of capsule assembly, test, and model photos.

Friendship 7 (John Glenn) Post-flight World Tour, including itineraries, clippings, press releases, correspondence.

**Gemini Series (115 Feet)**

Chronological Files, including letters, memoranda, and meeting minutes generated by the Gemini Program Office, McDonnell Aircraft and others, 1958-1971.

McDonnell Aircraft Corporation design notes, including aerodynamics, crew compartment, electrical, electronic, guidance and control, mechanics, instrumentation, propulsion, reliability, spacecraft weight and balance, spacecraft strength design, structural loads, and thermodynamics, 1963-1966.

Mission related documents, Gemini-Titan I through Gemini-Titan XII, including mission rules and reports, post-launch evaluations, flight plans, press kits, air-to-ground transcripts, press briefings and conferences, 1964-1967.

Manned Spacecraft Center Quarterly Status Reports and Reviews, 1962-1966.

Martin Corporation Documents on the Titan Launch Vehicle, including weight and balance reports, performance specifications, progress reports, reliability reports, flight evaluations, preflight test reports, and hazard analyses, 1962-1966.

Lockheed Corporations documents on the Agena Target Vehicle, including progress reports, requirements, reviews, and evaluations, 1961-1966.

McDonnell Aircraft documents on the Gemini Spacecraft, including performance specifications, press reference books, acceptance reviews, support and test plans, and weight and balance reports, 1962-1968.

Financial Management and Cost documents, 1961-1968.

Gemini Subject Files including DOD support documents, extravehicular activities, docking systems, rendezvous, POGO problems, food and waste management, and others, 1961-1969.

Spaceflight experiment documents, including McDonnell Aircraft correspondence regarding spacecraft modifications, experiment technical development plans, milestone schedules, abstracts, reprints, and reports, 1962-1966.

Meeting Minutes from Gemini Program Office Staff Meetings, McDonnell Aircraft Corporation technical negotiations, Gemini Program Office/Contractor Coordination Panels, and the Gemini Management Panel, 1962-1966.

Fuel Cell and Paraglider Landing System Development documents, 1961-1966.

McDonnell Aircraft Familiarization Manuals describing capsule systems and major components, 1962-1966.

Tape recordings and transcripts of 261 oral history interviews, 1966-1970; audio tapes of Gemini post-flight press conferences and television interviews, 1963-1966.

Gemini working papers covering data and mission analyses, system studies, operational methods, requirements, and other subjects, 1963-1967.

Glass slides, organized by spacecraft number, and largely concerning spacecraft assembly; photographs of the Gemini flights, organized by mission.

**Apollo Series (318 Feet)**

Chronological Files, including letters, memoranda, and meeting minutes describing the development of the Apollo spacecraft and lunar module including their design, fabrication, test and modification through the final Apollo mission, 1945-1978.

Memos of George M. Low, MSC Apollo spacecraft program manager for the period after the AS-204 fire, 1967-1969.

Transcripts of 327 oral history interviews, 1965-1972.

OMSF Management Council meetings, minutes and related documents.

Apollo Lunar Science Chronological files, 1958-1982.

Science documents for individual Apollo missions.

Manned Space Flight Experiments Board meeting minutes, 1965-1968, 1970-1972.

Space Sciences Steering Committee subcommittee meeting minutes, 1961-1968.

Lunar Receiving Laboratory Chronological files, 1964-1973.

Lunar surface operations planning meeting minutes, 1967-1972.

MSC Science and Applications Directorate staff meetings, 1961-1963, 1968-1973.

MSC Apollo Spacecraft Program Office weekly reports, 1962-1966, 1970.

Apollo mission documents, filed sequentially beginning with AS-001 in December 1964 and ending with Apollo 17 in December 1972. This collection includes flight plans, mission requirements documents, public affairs materials, air-to-ground and onboard voice transcriptions, mission reports, anomaly reports, stowage lists, and press kits among others.

Apollo crew training schedules, Apollo 7 through Apollo 17.

Command and Service Module documents, including operations and systems handbooks, manuals, and photographs. Also included is a multi-volume NAR study on CSM cost, schedule, and technical characteristics.

Lunar Landing Research Vehicle (LLRV), Lunar Landing Training Vehicle (LLTV), and lunar landing studies documents, 1965-1969.

Lunar Module documents, including operations and systems handbooks, photographs, flight readiness reviews, and configuration control board minutes.

Apollo Mission Planning Task Force documents, 1964-1966.

Contractor studies on Apollo logistic support systems, 1964-1966.

Apollo program quarterly status reports, nos. 1-25, 1962-1968.

Weekly activity reports, Apollo Spacecraft Resident Program Office, Downey, California.

Apollo Experience Reports authored by program participants on subjects such as docking systems, environmental control, LM descent and ascent engines, mission plan-

ning, testing, stress corrosion, attenuation systems and others. 116 total subjects.

Apollo Working Papers (1000 + series) on aspects of Apollo planning and operations, 1960-1968.

Apollo feasibility study proposals and contractor reports, 1960-1961.

Grumman reports including the LM extension study for AES, 1963-1966.

Apollo guidance, navigation and control documents, including MIT, AC Delco, and Grumman materials.

LM and CSM Weight and Mass Properties reports, 1962-1969.

**Skylab Series (192 feet)**

Correspondence Files, including letters, memoranda, meeting minutes, and notes originating at NASA Headquarters, the Johnson Space Center, and other field centers. Documents are arranged chronologically by mail code, 1966-1973.

Contractor correspondence files, primarily from North American Rockwell, Martin Marietta, and McDonnell Douglas, arranged chronologically, 1968-1973.

Post-Apollo planning documents, including materials from the Apollo Extension System (AES) and Apollo Applications Program (AAP) Offices (eventually re-designated Skylab in 1970). The subseries includes some MOL materials and files of the Space Station Study Office, 1962-1965.

Mission directives and management documents, including inter-center agreements, program approval documents, program management guides, program plans, contingency plans, and baseline operations plans.

Mission Requirements and Baseline Reference Mission documents used to provide a basis for mission planning and to describe mission events in detail, 1967-1972.

Handbooks, Databooks, and Checklists outlining operational procedures and experiment and subsystem data, 1970 - 1973.

North American Rockwell, Boeing, Martin Marietta, Bellcomm documents, including a large group of NAR progress reports on the CSM, 1962-1974.

OMSF Management Council meeting minutes and presentation materials, 1968-1973.

Skylab program review materials, including meeting minutes and charts from Management Reviews, Mid-term Review and Assessment, CSM Major Issue Reviews, Flight Readiness Reviews, and Design Certification Reviews, 1968-1973.

Configuration Control Board meeting minutes, 1970-1973.

Program Manager's Files from the office of Kenneth S. Kleinknecht, 1970-1972, 1974.

General Subject Files covering such diverse topics as the Crew Health Stabilization Program and the Skylab orbital debris problem, 1967-1974.

Experiments documents, including correspondence, meeting minutes, reviews, checklists, and acceptance data packages for ATM, biomedical, earth resources and earth observations type investigations, 1965-1974.

Skylab news briefings and public affairs publications, including transcripts and press kits, 1971-1977.

Transcripts and tapes from 77 oral history interviews.

Flight Director's Handover Notes and Flight Management Team Meeting Minutes, 1973-1974.

Air-to-Ground and onboard voice communications transcripts, 1973-1974.

Mission related documents, including flight plans, mission reports, and mission rules, 1972-1974, 1979.

Skylab Experience Bulletins and Lessons Learned documents describing the performance of flight crews, flight equipment and hardware, 1973-1975.

**Apollo-Soyuz Test Project Series (98 feet)**

Correspondence Files, including letters and memoranda filed chronologically, 1973-1977.

Clippings files and articles from American and Russian newspapers and magazines (including some technical translations), 1970-1976.

Public Affairs documents, including press kits and releases (in Russian and English), fact sheets, and documents regarding cooperative press and TV coverage of the ASTP mission, 1974-1976.

Working Group Documents, including materials generated by American and Soviet personnel as they negotiated the technical specifications for the ASTP mission, 1971-1975.

Transcripts of oral history interviews, 1974-1976.

Air-to-ground, onboard voice, and U.S. and U.S.S.R. Mission Control communications transcripts, 1975.

Photographs, including those taken at joint meetings held in Moscow and Houston, 1971-1975.

Experiments documents, including proposals, development materials and program management files.

ASTP Project documents in the 10,000 through 50,000 series, including safety assessment reports, mission planning documents, interacting equipment documents, and scheduling documents.

Mission related documents, including handbooks and databooks, flight plans, mission requirements documents, and crew activities plans, 1974-1975.

North American Rockwell documents consisting largely of materials on the development of the ASTP docking module, 1971-1974.

Crew Training and Joint Activities tapes (some in Russian), 1973-1976.

Joint Meetings documents, including reports, drawings, articles, and audio tapes, 1971-1975.

**Space Shuttle Series (918 feet)**

Chronological Files, including correspondence, memoranda, and early Shuttle development documents, 1957-1984.

MSC/JSC reports and presentation materials, filed chronologically, 1968-1989.

MSFC reports and presentation materials focusing primarily on the development of the Solid Rocket Boosters, External Tank, and Space Shuttle Main Engines, 1970-1988.

GSFC/Payload Planning Working Group documents, 1972-1973.

Rockwell documents, including proposals, study reports, contract reports, and related materials, 1965-1989.

Payload documents, including files generated by the Shuttle Payload Integration Office and Payloads Interface Engineering Office, 1973-1985.

Files of Thomas Hyle generated in the Contingency Abort Section of the Flight Analysis Branch, the Abort Analysis Section of the Engineering Analysis Section, and the Space Shuttle Systems Engineering Office, 1970-1986.

Engineering Systems Integration Group meeting minutes, 1977-1981.

Space Transportation System Operations Office, presentation files of Glynn Lunney, 1977-1981.

Spacelab documents, including correspondence, preliminary and critical design reviews, and experiment planning documents, 1971-1983.

National STS Program Office and Orbiter and GFE Project Office Weekly Activity Reports, 1970-1990.

Approach and Landing Test documents, including operations plans, final reports, and press releases, 1973-1978.

Mission related documents, including flight plans, mission reports, press kits, and flight profiles.

Contractor documents, including Grumman, General Dynamics, Boeing, Lockheed, Martin Marietta, McDonnell Douglas, and TRW concept studies and Shuttle proposals.

Remote Manipulator System documents, including design reviews, interface control documents, final reports, meeting minutes, and presentation materials generated by NASA and SPAR Aerospace, 1972-1982.

Phase B and Phase C/D Requests for Proposal, Source Evaluation Board documents, viewgraphs, and contracts.

Aerodynamic Design Databooks, 1972-1981.

Correspondence and subject files of Rodney Rose generated in the Mission Support Office and during his term as Assistant Director for the Shuttle, 1975-1984
Shuttle/Salyut Talks, including agenda and meeting notes, 1976-1978.

Shuttle Avionics study reports generated by various NASA contractors, 1968-1975.

Transcript and tapes of oral history interviews, 1983-1985.

Special Program Requirements Review Board for Systems Design, including agendas, meeting minutes, and directives, 1986.

STS User Charge documents, including background studies, correspondence, notes, and presentation materials, 1974-1980.

Abort and Separation Panel meeting minutes, 1973-1976.

RTG (Radioisotope Thermoelectric Generator) documents, including safety analysis reports for Galileo and Ulysses missions, 1976-1988.

Shuttle Carrier Aircraft (SCA) documents, including Boeing materials related to the 747 modification contract, 1974-1976.

Space Shuttle Program Office presentation files, arranged chronologically, 1969-1988.

Orbiter Technical Status Reviews (TSR), including correspondence, meeting minutes, and presentation materials, 1981-1986.

Shuttle Mass Properties and Weight Reports, 1974-1990.

**Space Station Series (195 linear feet)**

Chronological Files, including correspondence, meeting minutes, and reports from early space station concept studies, 1952-1982.

Space Station Program Office and Space Station Project Office correspondence and presentation files, 1984-1991.

McDonnell Douglas documents, including reports from the Manned Orbiting Laboratory (MOL) Evaluation Study, the Space Station Phase B Definition Study (1969-1972), and the Space Station Systems Analysis Study.

Rockwell documents, including reports from the Space Station Phase B Definition Study (1969-1972), the Space Construction Analysis Study, and the Space Operations Center (SOC) Study.

Boeing documents, including reports from the Saturn V Single Launch Space Station Study, the Space Operations Center (SOC) Systems Analysis Study, and the Space Station Attributes and Architectural Options Study.

Miscellaneous Contractor documents, including reports generated by General Dynamics, Grumman, Lockheed, Martin Marietta, and TRW.

Critical Evaluation Task Force meeting minutes, presentation materials, and final findings, 1986.

Rockwell and McDonnell Douglas Space Station Work Package 2 definition and preliminary design phase proposal documents for Phase B, 1985-1986.

European Space Agency Columbus Phase B1 definition and design reports, 1985.

Space Station Phase C/D RFP and McDonnell Douglas technical proposal, 1987.

Architectural Control documents for various Space Station Freedom subsystems, 1986-1991.

NASA Space Station Program Definition and Requirements documents, 1988-1991.

Description and Requirements documents governing Space Station technical and management activities at JSC, 1989-1991.

Preliminary Design Review Plans, 1989-1991.

Miscellaneous requirements documents for a wide range of items including the in-flight health care system, robotics accommodation, microgravity laboratories, radio frequency data, etc.

Software specifications, development, and test related documents, 1989-1991.

Space Station Freedom External Maintenance Task Team report, 1990.

**Center Series (468 linear feet)**

Director's Reading Files, including correspondence circulated among executives in the Center Director's suite of offices. These files do *not* contain confidential or sensitive materials. They are filed chronologically by the circulation date, 1978-1991.

Headquarters correspondence, arranged chronologically by office of origin, 1973-1981.

Files of Joseph P. Loftus, including materials related to NASA budget and manpower issues, advanced program planning, research and technology operating plans, and shuttle extended duration mission studies.

Program Operating Plans, 1965-1979.

Files of Thomas K. Mattingly, including materials related to shuttle flight crew issues, 1972-1978.

Materials related to advanced program planning, manned Mars mission studies, and proposed planetary missions, 1953, 1959-1989.

Docking and rendezvous documents, including materials related to hardware development and mission techniques, 1960-1988.

Space Suit documents, including materials related to the development of the Mercury, Gemini, Apollo, and Space Shuttle generation of suits, 1959-1981.

Earth Resources Program Office documents, including correspondence, meeting minutes, weekly activity reports, and project reports, 1965-1981.

MIUS/MIST Project files, including correspondence and reports related to the integrated utility systems study, 1971-1981.

Files of Clifford Charlesworth, including reading files and activity reports of the Space Operations Directorate, 1982-1987.

Manned Spaceflight Schedules outlining program and hardware milestones for the Gemini and Apollo programs, 1962-1971.

Food Systems files, including correspondence and reports related to nutrition standards, hardware, experiment management, and menu development for in-flight feeding, 1967-1978.

Reading files of Dr. Maxime Faget (1958-1981) and Dr. Christopher Kraft (1963-1970).

Correspondence files and miscellaneous reports of the Administration, Center Operations, Space and Life Sciences, Mission Operations, Flight Crew Operations, and Engineering and Development Directorates.

Large Space Structures documents, including correspondence and reports related to the Power Extension Package (PEP) study, 1971-1981.

Paul Purser Logs to Dr. Robert Gilruth outlining daily activities of the Space Task Group and Manned Spacecraft Center in its earliest years, 1956-1964.

MSC Senior Staff Meeting Minutes, 1961-1968, 1970-1976.

Organization files, including organization charts, studies, and functional statements for MSC/JSC, 1958-1986.

NASA, JSC, and STS Management documents, including management study reports conducted internally and by various JSC contractors.

Files of Paul H. Vavra, including materials related to the development of the Mercury Control Network, Mission Control Center, and Apollo Unified S-Band and Acceptance Checkout Systems.

Mission Control Center and Real Time Computer Complex documents, including correspondence and reports from MIT and Philco Corporation.

Solar Power Satellite documents, including Boeing and Rockwell study reports examining questions of energy conversion in space, microwave transmission of power to earth, and space construction of power satellites, 1976-1981.

Files of Dr. Robert Parker, including materials related to his position as backup crew member for Apollo 15 and Apollo 17, program scientist for Skylab, and flight-crew for Spacelab and Astro-1 Space Shuttle missions.

Orbital Maneuvering Vehicle (OMV) project documents, including requests for proposal, study reports, and meeting minutes.

**General Reference Series (200 linear feet)**

NASA Special Publications, including *Aeronautics and Astronautics* and books in the History Series. Congressional Authorizations and Appropriations, Testimony, and briefing materials, 1950-1983, 1986-1991. NASA Semiannual reports to Congress, 1959-1970.

President's Reports to Congress on U.S. Aeronautics and Space Activities, 1959-1970, 1972-1987, 1989-1990.

Current News clippings from major national newspapers, 1964-1991.

NASA and MSC/JSC Management Instructions and Announcements, 1959-1992.

*Space News Roundup* (JSC internal newspaper), 1961-1992.

Space Flight Justification and the Role of Man in Space, including articles and publications arguing both the pros and cons of the space program and the relative merits of manned versus unmanned exploration, 1960-1989.

JSC, NASA Headquarters, and NASA Field Center Telephone Directories, 1959-1992.

# 13

# HISTORICAL MATERIALS AT THE KENNEDY SPACE CENTER

Mail: Kennedy Space Center Library Archives, Kennedy Space Center, Florida 32899

Location: Kennedy Space Center Headquarters Building, Room 1533

Hours of Operation: 7:30 a.m. to 4:00 p.m., Eastern Time Zone, Monday through Friday

Contact: Ken Nail, Jr., Archivist, or Harriet Brown, NASA Technical Representative

Telephone: (407) 867-2407; FTS: 823-2407

### General Information

The KSC Library Archives's historical documents collection was created in 1976 during the celebration of the American Bicentennial and has holdings of approximately 600,000 pages of documents and about 30,000 photographs, which are historical evidence of the center's growth and development. An increasingly large portion of the Archives' holdings is organized in 102 guides and 82 container lists which range in subject from the construction of the Vehicle Assembly Building and Launch Complex 39 to the launch of each manned spaceflight. The collections document significant parts of the history of NASA's manned space programs, i.e., Mercury, Gemini, Apollo, Skylab Apollo-Soyuz, and Space Shuttle. Notable among these holdings are Dr. Kurt H. Debus's personal photograph collection (Debus was the first KSC Director), 1945-1962; documents related to the V-2 rocket work at Peenemunde during World War II; and a large number of photographs of the visits to Kennedy Space Center by Presidents Kennedy, Johnson, Nixon, and Carter. Recently completed are container lists on missiles, the auto-ignition test, the Missile Firing Laboratory, and propellants. Guides completed include the subjects: energy, mission operations reports (MORs), air-to-ground transcripts (on microfiche), the Facilities Construction Photograph Collection, and the Office of Manned Space Flight. The Archives maintains a growing collection of Executive Staff Notes dating primarily from 1989. Another guide still in the process of composition concerns the Space Transportation System Office at Kennedy Space Center dating from the early 1970s.

A collection of reference books is available for researchers; research and reference service is available; written inquiries are preferred. The Kennedy Space Center Library is responsible for compiling and publishing the Chronology of KSC and KSC-Related Events; chronologies have been published for the years 1976-1990. The chronology was compiled prior to 1980 by the former KSC historian. The 1991 edition will be available in the first quarter of 1992. The Kennedy Space Center Library Archives also prepares a cumulative five-year index to the *Spaceport News*, the newspaper of Kennedy Space Center.

### Access to KSC Library Archives

The John F. Kennedy Space Center is a restricted government installation; access to all of its facilities is granted by prior clearance, per KHB 1610.2. and NMI 1371.4B. Access to the KSC Archives by U.S. citizens is best achieved by contacting the KSC Library Archives by letter a *minimum of two weeks* prior to coming to Kennedy Space Center. Telephone requests will be accepted. Foreign nationals must contact the KSC Library Archives a *minimum of six weeks* in advance of visit to the space center and should provide a passport or visa number. It is recommended that foreign nationals also

provide the name, address, and telephone number of at least one American reference.

**Apollo Era, 1966-1972 (3 1/2 feet)**

The guide to Apollo Era documents comprises ten series, an arrangement of 245 folders over 53 pages of description. The bulk of the collection is made up of Daily Status Reports dating from January 3, 1966, through November 30, 1972; these make up 83 folders. The remainder of the documents are test reports, summaries, letters, memoranda, operations plans, portions of the Review Board findings concerning the AS-204 accident, and launch documents from the beginning of the Apollo program through Apollo 12 and for Apollo 17. The collection does not include documentary materials for Apollo 13-16.

**Apollo 204 Accident, 1966-1967 (2 1/2 feet)**

The Apollo 204 Accident Guide is a description of documents relating to the accident that took place on January 27, 1967, at Kennedy Space Center. The various evidentiary materials described in the 29 pages are arranged in eight series and contained in 58 folders. The documents include Congressional hearings, statements concerning the accident by then NASA Administrator James E. Webb, the "Phillips Report," regular press releases, a special series of "AS-204 Releases" running from January 27 through February 2, 1967, NASA's official accident report, newspaper articles, wire service reports, chronologies, biographies of Gus Grissom, Roger B. Chaffee, and Edward H. White II, memoranda and letters, and the four volumes of the *AS-204 Technical Information Handbook.*

**Army Ordinance Missile Command Reports, 1958-1960 (1 foot)**

These documents were published by the U.S. Army Ordnance Missile Command (AOMC) from May 15, 1958 through July 6, 1960, and reflect work done for the Advanced Research Projects Agency of the Department of Defense and for the National Aeronautics and Space Administration. Most of the documents are monthly progress reports. The collection is housed in 33 folders in two archives boxes.

**Wernher von Braun, 1959-1970 (2/3 feet)**

This collection of documents covers the career of Dr. Wernher von Braun from 1945 through August 1970. Among other documents, the collection includes von Braun's rocketry predictions made in 1945, a selection of his speeches, and several documents concerning his tenure as Director of the Development Operations Division. The collection consists of twenty-one folders in two archives boxes.

**Congressional Series, 1949-1975 (6 feet)**

The Congressional material is arranged alphabetically by record type/agency, thereunder chronologically. Speeches are arranged alphabetically by speaker, thereunder chronologically. Miscellany is arranged similarly. In addition, the collection contains a number of Congressional publications from 1962 to the present; most concern NASA appropriations.

**Crawler-Transporter, 1962-1967 (1 1/2 feet)**

This material consists of blueprints, drawings, technical reports, proposals, feasibility studies, modification reports, and design and production criteria. It is arranged chronologically in 30 folders. Two files, "Crawler Analysis from Design Analysis" and "Transporter Mode Comparison Evaluation Study," are arranged chronologically within each file. Undated material can be found at the end of that guide.

**Kurt H. Debus (40 feet)**

The guide to this material has been compiled for use as a general reference tool for researchers. The information found here is the result of a survey of 40 boxes of official records from the office of the Center Director, Dr. Kurt H. Debus. Temporarily housed in the Center's records staging area (in the Industrial Area of Kennedy Space Center), the director's records discussed herein were to be retired into the records management system of the National Archives.

A number of documents from these boxes have been copied as part of a collection that will be called the Center Director's Papers Collection; as copying is completed from each accession, accessions will be freed for transfer to the records management system of the National Archives.

### Deputy Director, 1963-1972

This material comprises the non-current official records of the Office of Deputy Director of Kennedy Space Center. These materials, dating from 1963 through 1972, are in the custody of the records management system of Kennedy Space Center; they are housed in the records staging area in the Industrial Area of Kennedy Space Center. Descriptions of the records were derived both from folder titles and from records transmittal forms. These records are eligible for transfer to the National Archives.

### Department of Defense, 1958-1970 (2 feet)

The Air Force subseries consists of chronologies, handbooks, histories, and technical reports. They are arranged chronologically under the following headings: Air Force Eastern Test Range, Air Force Missile Test Center, Office of Aerospace Research, and Western Test Range. The Army subseries consists of a circular, documents, histories, pamphlets, plans, proposals, regulations, reports, specifications, technical memoranda, technical reports, and a file of miscellany; it is arranged chronologically thereunder. The Navy subseries consists of histories and reports, arranged chronologically.

### Historical Events Cassette Tapes Collection 1958-1970 (2 feet)

This collection of audio recordings have been available in the Archives since 1976 but have only recently been converted to cassette format to facilitate their use by researchers. The collection, to which other tapes may be added, presently consists of seven series and 63 AVX 90-minute cassettes. The tapes have been renumbered beginning with the first Apollo History Workshop at A-1. Among the recordings are speeches by the first Kennedy Space Center Director Dr. Kurt H. Debus, former President Lyndon B. Johnson, former Vice-President Hubert H. Humphrey, and Lt. Col. James P. Hamill. In the latter instance, Hamill spoke of the recruitment by the U.S. Army of German Scientists from Peenemunde at the close of World War II. Also included are recordings of the launch of Explorer I on January 31, 1958; the Explorer I tenth anniversary celebration held on January 31, 1968; and interviews with Dr. Rocco Petrone, Dr. Hans. F. Gruene, Albert Zeiler, and Theodor A. Poppel.

### Hovair 1965 (1/3 foot)

This collection contains three documents concerned with the Hovair transporter as a load-carrying device as described in Martin Company reports of May 1965.

### Jetstar/Executive Transporter, 1962-1965 (1 foot)

This material contains trip diaries, itineraries, manifests, operational data, and other information on the Kennedy Space Center Jetstar, a Lockheed executive aircraft used by the center to transport visiting dignitaries and other personnel. The series is arranged chronologically, with undated documents at the end of the file. The undated file is arranged alphabetically by title of the document.

### KSC Design Engineering Project Status Reports, 1974-1976 (1/2 feet)

These reports (TR-1033) are arranged chronologically.

### Launch Umbilical Tower (LUT), 1960-1971 (1 foot)

This material consists of design proposals and configurations, drawings, review data, an engineering study, a technical report and test and analysis documents. It is arranged chronologically with undated material at the end, arranged alphabetically by title or topic.

### Marshall Space Flight Center Historical Monographs, 1960-1967 (1 foot)

This material contains historical monographs and chronologies of Marshall Space Flight Center (MSFC). It includes twenty volumes, eleven of which, Marshall Historical Monographs MHM 1-11, contain supporting documents. Two chronologies appear as Marshall Historical Reports (MHR 6 & 7). This guide is arranged chronologically.

### Mercury Program, 1958-1965 (3 feet)

The material is divided into suborbital and orbital missions and arranged chronologically thereunder. In addition to technical material, there are records from the Public Affairs Office. The records consist of the following: quarterly project status reports; a contractor siting team report; a report on range support; monthly reports on Department of Defense support; transcripts of press conferences; documents relating to flight results; news releases; illustrated commemorative brochures; fact sheets; illustrated brochures describing mission personnel and post-launch ceremonies; conference proceedings; transcripts of communications from spacecraft; transcript of a public address announcement from Mission Control Center; and a document giving test philosophy and proceedings as applied to Mercury spacecraft and planned application to future projects.

### News Releases, 1959-1976 (3 feet)

This material contains news releases and fact sheets from Marshall Space Flight Center (MSFC), Manned Spacecraft Center/ Johnson Space Center (MSC/JSC), Kennedy Space Center (KSC), and NASA Headquarters. No series is complete; each has a table of contents. The series covers the times indicated:

| | |
|---|---|
| Kennedy Space Center | 1962-1975 |
| Manned Spacecraft Center | 1963-1964 |
| Marshall Space Flight Center | 1961-1965 |
| NASA Headquarters | 1959-1976 |

The subject matter varies from biographical announcements and photographs of those appointed or promoted, to summaries of speeches, congressional hearings, announcements of contracts, mission activities, and visits by world leaders to the various centers. The releases and fact sheets are arranged chronologically. All but those from the Marshall Space Flight Center are numbered sequentially. Fact Sheets from the Kennedy Space Center are not included in this guide. Kennedy Space Center Fact Sheets are filed with guides to which they pertain, i.e., by topic or in the speeches guide.

### NOVA, 1961-1964 (1 1/2 feet)

NOVA was a large launch vehicle, later canceled in favor of the smaller Saturn vehicle. The documents are arranged chronologically in 188 folders. This collection includes: Hawaii NOVA launch site study, NOVA vehicle systems study, NOVA launch facilities study, lunar mission study, proposals, facilities estimates, land development plans, hazards criteria, transportation requirements, graphs, drawings, blueprints and memoranda.

### Photograph Collection

The approximately 30,000 pictures which make up the photograph holdings of the Kennedy Space Center Library Archives are described by means of catalog cards, according to subject. The period covered by the collection is approximately forty-one years.

### Press Kits, 1963-1991 (3 feet)

This material is divided into manned and unmanned launches. It is arranged alphabetically by the name of the mission, thereunder chronologically within these subdivisions: press kits created by NASA; those created by other government agencies; and those generated by industry. Shuttle materials are housed separately.

### Project Gemini, 1962-1966 (3 feet)

This material is arranged sequentially by the number of the mission. In addition to technical material, there are records from the Public Affairs Office. The records for each mission include: a launch facilities plan; contractor reports; fact sheets; test

summaries; mission summaries; program review documents; a press handbook; project histories; and extravehicular activities; mission reports; a mission commentary transcript; data summaries; illustrated mission summaries; operations orders; mission recovery requirements; and files pertaining to protocol for the invitees and attendees, their schedules, and accommodations involved with the launches.

**Public Affairs (9 feet)**

This collection of documents is especially strong on visits by prominent public figures and on the worldwide interest in the American space program. The collection is complemented by the Gordon Harris Public Affairs collection and accompanying papers donated to the Archives after his retirement.

**Saturn/Apollo Launches, 1961-1972 (12 feet)**

Documents in this material include: mission histories, launch operations schedules, daily status reports, mission reports and evaluations, public affairs records, and miscellaneous correspondence. The material is divided into unmanned flights grouped according to launch vehicles, e.g., Saturn I tests; manned missions are listed chronologically.

**Service Structure, 1958-1969 (1 foot)**

This chronologically arranged guide consists of technical memoranda, architectural and engineering studies, charts, contractors' reports, a design data manual, design criteria, siting and design recommendations, drawings and blueprints, and construction cost estimates. The Saturn Service Structure II Design Committee papers form a single file.

**Space Shuttle (18 1/2 feet)**

The development of the Space Shuttle as a reusable orbital vehicle is reflected in documentation continually being created, and the Shuttle holdings of the archives of the Kennedy Space Center Library are increasing correspondingly. For this reason, Shuttle documents of historical value are being handled as though they constituted a single large records group. A number of documents relating to each flight are also available for research; these were primarily gathered at the time of the launch from materials available at the Press Site and the Joint Industry Press Center (JIPC).

**Spacecraft Operations, 1967-1968 (1 foot)**

This series consists of Spacecraft Operations, a biweekly status report at Kennedy Space Center, prepared by the Support Branch and the Boeing Company. It is arranged chronologically.

**Spaceport News, 1962-Current year**

The *Spaceport News* is the official newspaper for the civil service and contractor employees at the Kennedy Space Center and is published by the Public Affairs Office, Public Information Branch. The first issue appeared December 12, 1962, approximately six months after the formal establishment of the Launch Operations Center, July 1, 1962. Between December 13, 1962, and July 1966, *Spaceport News* was issued weekly. Since then, it has been published on alternate Fridays. The *Spaceport News Index* is currently prepared by the Kennedy Space Center Library Archives and is included in this series. The Index is prepared in cumulative five year portions.

**Speeches, 1959-1973 (3 feet)**

This material comprises 274 folders of speeches delivered by persons ranging from Ira Abbott and Aldo H. Bagnulo through James E. Webb and Eugene M. Zuckert. The guide is arranged alphabetically by speaker and chronologically thereunder.

**Taylor Photograph Collection (8 feet)**

This collection of facility construction photographs is described in a guide; the collection originated in four large boxes from the office of Annie E. Taylor, Administrative Operations Branch of Project Management. A second photographic collection of roughly equivalent size has not yet been described but does have a useable index.

The Taylor Photograph Collection consists of some 2,461 photographs arranged in eleven series categories. The 116 folders are housed in nine archives boxes located on Range 8D through 8F. Descriptions of the photographs were derived from the wording found on the back of each photograph. Original order was maintained throughout. Duplicate photographs were sent to the Smithsonian Institution's National Air and Space Museum in Washington, D.C. In the relatively few instances where third copies of the photographs existed, these were sent to the Deutsches Museum in Munich, Germany.

**Telephone Directories, 1961-Current Year (4 feet)**

This material is arranged alphabetically by NASA Center and chronologically thereunder. The largest and most complete series of this collection are the Kennedy Space Center directories which run from 1964-Current Year. The series for Launch Operations Directorate includes 1961-1962.

**Unmanned Launches, 1948-1976 (9 1/2 feet)**

This material consists of launch reports, field flight reports, operations summaries, flash flight analysis reports, post-launch reports, illustrated fact sheets, technical reports, and blueprints. It is arranged alphabetically by mission, thereunder chronologically.

**Vanguard-Martin Collection, 1949-1959 (3 feet)**

The documents which make up the Vanguard-Martin Collection (78-10), include reports, studies, and analyses of prelaunch and launch activities of the Vanguard Satellite Launch Vehicle Program. The documents are arranged chronologically and cover the period from September 1949 through December 1959. The researcher may find particularly useful an organization manual for Project Vanguard dated September 1958, which is found in folder 88 of box 5, and a NASA review dated January 1959, which is found in folder 97 of box 6. The collection is in 105 folders contained in 6 boxes.

**Vehicle Assembly Building, 1962-1973 (2 feet)**

This material consists of engineering reports, technical studies, data manuals, design reviews, blueprints, and fact sheets pertaining to the Vehicle Assembly Building. It is arranged chronologically; miscellany consists of undated material, arranged alphabetically.

# 14

# HISTORICAL MATERIALS AT THE LANGLEY RESEARCH CENTER

Mail: Historical Program Office, Mail Stop 123, Langley Research Center, Hampton, VA 23665-5221

Location: Building 1194, Room 200, for historical collections; Building 1194, third floor, for Technical Library's Collections

Hours of Operation: 8:00 a.m. to 4:30 p.m., Eastern Time Zone, Monday through Friday

Contact: Richard T. Layman, Historical Program Coordinator, or Garland Gouger, Library Technical Information Specialist

Telephone: (804) 864-3441; FTS: 928-3441
Technical Library: (804) 864-2356; FTS: 928-2356

### General Information

Langley Research Center in Hampton, Virginia, oldest laboratory of the National Advisory Committee for Aeronautics (NACA) and its successor agency (NASA), possesses a historical documents collection that, with its technical library, constitutes a premier collection (with some documents dating from 1917) for aerospace historical research. Included are rare books and photographs, technical reports, office memoranda, flight and wind tunnel logs, programs and minutes of major technical conferences, personal papers, transcripts of interviews with key personnel, as well as scale models of aircraft and spacecraft and other significant artifacts. Besides Langley Research Center's own historical documents, the collection includes important files from the Wallops Island, Virginia, rocket test range, created in 1945 as an auxiliary base of Langley Laboratory and managed by Langley as part of the Pilotless Aircraft Research Division (PARD) until 1959, when Wallops became an independent NASA field installation.

The most important collections at Langley are: NACA correspondence files; NACA research authorization files; the Milton Ames Collection; the personal papers of Floyd L. Thompson, John Stack, and Charles F. Zimmerman; and the books of Max Munk. These collections are described briefly below.

### Correspondence Files

The correspondence files were created as the byproduct of Langley Research Center's "tight-to-the-vest" correspondence policy and a highly centralized filing system. There are two catalogs to the correspondence file codes in the Langley historical documents collection, one that is alphabetical by subject and the other that follows an alpha-numeric code; both are the products of the laboratory's mail filing operation. The contents of their respective first pages are described below.

*Subject Guide, Alphabetical (Examples)*

| SUBJECT | CODE NUMBER |
|---|---|
| Aberdeen Proving Grounds | B10-3 |
| Accelerometers | A18R-8A |
| Acoustics | A313-1 |
| Administrative Policy and Procedure | E30-12C |
| Advanced Research Projects Agency | E20-6 |
| Advisory Group for Aeronautical R&D | E2-12B |
| Aeroelasticity | A178-2 |

| | |
|---|---|
| Aerospace Industries Association | E6-7 |
| Aircraft Companies: General | A173-4 |
| Alsos Mission | E2-13C |
| Altimeters | A184-8H |
| Ames Research Center | B10-6 |
| Angle of Attack: Instruments | A184-8D |

*Alpha-Numeric Guide (Examples)*

| CODE | SUBJECT |
|---|---|
| A170-1 | Aerodynamic Theory |
| A172-1 | Aerodynamics Committee: Langley |
| A173-1 | Airfoils |
| A173-1A | Wings: Swept |
| A173-5 | Airplanes: General |
| A173-5A | Hypersonic Aircraft |
| A173-5B | Helicopters: General |
| A173-5E | Airplanes: Disposition |
| A173-5P | Air Traffic Control |

**Research Authorization Files**

Although the correspondence files are valuable, the most important source for research in aeronautical history at Langley consists of the NACA research authorization files. These files permit the historian to recreate the entire NACA research procedure for a given project from the raw research idea through the final polished report.

What, exactly, was a NACA research authorization? Whenever a project for research at Langley was approved by NACA Headquarters, a research authorization (or RA) was signed by the chairman of the executive committee and forwarded to the laboratory for execution. Technically Langley was supposed to have an RA for each one of its investigations, and each RA was expected to lead to the publication of a NACA report. Each RA had a title and number, and each included specific information on the how and why of the investigation.

**Milton Ames Collection**

In the early 1970s, Milton Ames, a former Langley engineer who had served as chief of aerodynamics at NACA Headquarters from 1949 to 1958, began research for what he hoped would be a complete and publishable history of the laboratory. Although he did not achieve his goal, Ames did pull together hundreds of significant documents. Organized into folders which he titled and deposited into seven oversized boxes, the Ames collection is now in lateral files in the Langley archive; the original filing order and folder titles have been preserved.

The Ames collection is especially enlightening because it was created by an "old NACA hand," a product of the institutional culture under investigation. The documents he found significant enough to include for research tell us something about both his identity as a member of the NACA "corporation" and about his approach as an engineer to historical understanding. Furthermore, since Ames was one of the NACA's most talented and forward looking aerodynamicists, his choice of key technical papers for historical examination is helpful to the nonspecialist. The collection organization is outlined below.

*Contents of Box No. I*

Wright Brothers
Establishment of British Advisory Committee for Aeronautics
Need for an Aeronautical Laboratory in America
Smithsonian Advisory Committee on the Langley Aerodynamical Laboratory
Surveys of Aeronautical Laboratories in Europe, 1913-1920
Aeronautical Research in Canada
Early History of Aeronautical Research in Germany
Miscellaneous Papers on Aviation up to Establishment of NACA
Legislation Pertaining to NACA, and April 1958 Summary
Establishment of NACA
NACA Membership, Chairmen, Etc.
First Meeting of NACA
Langley Site Selection and Transfer of Land to NACA
NACA Statement of Policy, October, 1917; Executive Order Dated May 20, 1918
Memorandum of Understanding with the Army Re Use of Langley Field by NACA, 1919
Summary of Important Events in Early History of NACA, 1915-1917
NACA Paris Office (Established May 1919)

Miscellaneous Papers on Aeronautical Research in USA, 1921-1925
Early Reviews and Summaries: NACA and Langley
Miscellaneous Langley Background Information
Langley Field, Va.: History and Construction (Air Corps Views)
Langley Land Records and Deeds
Early Construction, Langley Research Station
Dedication of Langley (June 11, 1920)
Variable Density Wind Tunnel: Construction

*Contents of Box No. 2*

Langley Organization Charts
Langley Personnel and Personnel Activities
Estimates of Langley Plant Costs
Economic Value of NACA Research (Summary, 1937)
Preliminary (Langley) Data on NACA Budget (1915-1952)
Efforts to Transfer NACA from Independent Agency to Other Agencies
Langley Inspections (Originally called Manufacturers' Conferences)

*Contents of Box No. 3*

Photographic Files
Log Books of Early Exhibits
Visitors' Register, Langley, 1926-1934

*Contents of Box No. 4*

Wilbur Wright Memorial Lectures
Folders on Key Individuals Associated with Langley
History Clippings (1925-1930)
1933 Hurricane
Special Publications: Anniversaries, Histories
Conferences, Ceremonies, Inspections, Visitors
Economic Study of 1933 and "Notes on Aviation Progress Through Research"
Langley History (Collection of Papers and Talks on Langley History)
Miscellaneous Press Releases on Langley Research Activities
Miscellaneous Correspondence Regarding Early Headquarters/Langley Relationship
Langley Telephone Directories, January 1963-Current

*Contents of Box No. 5*

Early Engine Competition (1920)
Fatal Aircraft Accident Report, JN-6 44946, August 20, 1924 Ford Reliability Tour, 1926
Crash of the "American Legion" at Langley, April 26, 1927
Research Activities During 1920s
NACA Preparation Prior to World War II
Langley Contributions to Ames and Lewis Laboratories
Langley Activities During World War II Era
Mead Committee Investigation: Correspondence
National Aeronautical Research Policy, March 21, 1946
Post-World War II Research Activities
Government Accounting Office Survey of NACA, 1953
25th Anniversary of Langley Towing Tank and Full-Scale Wind Tunnel, 1956
National Awards to Langley
Extra Copies of *Air Scoop*
Miscellaneous Airship Photographs from Melvin N.Gough

*Contents of Box No. 6*

Area Rule and Richard Whitcomb
Langley Contributions to B-58
V/STOL Research
High-Speed Submarine (Albacore) Research for U.S. Navy
Research on Flexible Wings
Langley Special Group on Research for Guided Missiles
Langley Research Facilities
"NACA Research into Space," 1957
ECHO 1 and William J. O'Sullivan
Early Manned Space Flight
Project Apollo

*Contents of Box No. 7*

Papers and Talks relating to History of Langley

NOTE: The "box" scheme is retained through inserts, but the Ames collection is housed according to his scheme, in five lateral file drawers.

## Personal Papers

*Floyd L. Thompson Collection*

This collection holds more for the space historian than it does for the historian of aeronautics. Most of its contents postdate the NACA; they derive from Thompson's term as Director of the NASA Langley Research Center, 1960-1968. Box C of this collection, though, contains some important documents on NACA research dating back to the 1930s. (Thompson began working for NACA at Langley in July 1926). The following reproduces Floyd Thompson's own inventory of the subjects of the collection, which is now housed in two lateral file drawers.

*Box A*

MORL (Manned Orbital Research Laboratory)
Lunar Orbiter (Historical Notes)
Apollo
Mercury
Scout
X-15
SST (Supersonic Transport)
Passive Communications Satellite
Large Boosters
Miscellaneous Technical Proposals and Memos

*Box B*

Early Space Program Planning: Memos and organizations: Visits and Events
Newport News Cyclotron and VARC (Virginia Associated Research Center)
Special Assignments

*Box C*

Old Langley Flight Research Programs
Historical Notes on Flying Qualities Work
Old Conference Memos and Historical Notes on Dynamic Loads and Structures Research
Transonic Research
Notes, Comments, Statements on Management Philosophy Aeronautics Policy, 1970
Langley's 50th Anniversary
Rotary Club Talks
Local Affairs
University of Michigan Honorary Doctorate
William and Mary Honorary Doctorate
Retirement Party, October 17, 1968
Personal Matters, Including Correspondence Regarding Appointment as Center Director
Notes on Other Persons
Miscellaneous Technical Reports and Papers

*Box D*

Copies of Public Talks, Publicity Statements, Photos
Letter to National Academy of Engineering
Numerous Technical Articles and Papers, Mostly Published

*John Stack Collection*

This collection of the papers of a famous Langley aerodynamicist of the 1920s through the 1950s is more valuable to the historian of aeronautics than the Thompson collection because it includes a greater number and wider chronological range of older business correspondence and research program files, many of which concern Stack's pioneering work in transonic and supersonic technology. The papers, which are in folders labeled by Stack, are housed in three lateral file drawers according to categories.

*Section No. 1: Wind Tunnel Design, Operation, and Test Techniques*

Crocco Curve
Kochel Ultra-Supersonic Wind Tunnel Development
New Types of Tunnels
Uses of Gas other than Air in Wind Tunnels
Hodograph Report
8-Foot High-Speed Tunnel Operations
Supersonic Wind Tunnel at Wright Field
4-Foot Supersonic Tunnel
Miscellaneous Wind Tunnel Data
Special Type Tunnels: Slotted Test Sections
Repowering 16-Foot High-Speed Tunnel
Unitary Plan Wind Tunnel
Revised Unitary Program
Gas Dynamics Laboratory
Supersonic Compressor
Aberdeen Supersonic Wind Tunnel

Madelung High-Pressure Water Tunnel
Proposed Air Engineering Development Center
National Supersonic Research Center
Electric Power Supply
Refrigeration
Schlieren Photographs: British National Physical Laboratory
Afterglow Photographs
Sphere Photos over a Range of Mach Numbers

*Section No. 2: Research Problems*

Jet Analysis, Inducted
Interaction of Shock and Boundary Layer
Shrouded Propellers
Data on Various NACA Airfoil Section
Drafts of Stack's Wright Brothers Lecture, "Compressible Flows in Aeronautics," December 17, 1944
Miscellaneous Technical Reports

*Section No. 3: Reports of Meetings, Conferences, and Study Groups*

Gas Turbine Conference at General Electric, 1945
High-Speed Aerodynamics Conference, NACA-Navy-Army, July 13, 1945
Stack's Report on Aberdeen Conference, January 17, 1946
American Physical Society Meeting, April 25, 1946
NACA Conference on Supersonic Aerodynamics, Ames Laboratory, June 4, 1946
Langley Conference on High-Speed Aerodynamic Theory, February 3, 1947
Langley Conference on Supersonic Aerodynamics, June 19-20, 1947
Ames Conference on Supersonic Aerodynamics, August 31, 1948
American Physical Society Meeting, University of Virginia, December, 1949
Miscellaneous Conference Reports
Conferences
Minutes of Meetings
Subcommittee on High-Speed Aerodynamics
Committee on Advanced Study
Ad Hoc Panel on Long-Range Air-To-Air Guided Missiles
Draper Committee
DOD Technical Advisory Panel on Aerodynamics, Ad Hoc Group on Water-Based Aircraft

*Section No. 4: Memos and Correspondence*

Henry J. E. Reid's Trip to Europe, 1944
Developments in High-Speed Aeronautics During World War II
Riparbelli Report
Letters from Coleman Dupont Donaldson on German Scientists at Wright Field, 1946
Bell Telephone Lab
Personal Correspondence
Memos for Associate Director
Letters Between Professor Carlo Ferrari, University of Turin, and Antonio Ferri, NACA, 1947-1948
Memos on Airfoils
Memo from Hartley Soule, 1948
Memos for Files
Miscellaneous Correspondence

*Section No. 5: Aircraft Development Projects*

North American P-51
High-Speed Bomber Program, 1945
Supersonic Airplane
Project 506
Water-Based Aircraft
Republic P-47B
B-35 Elevon
Propeller for Spitfire 21
XP-69 Horizontal Tail
Eagle
Republic Aviation Corporation 5-Year Plan
Supersonic Transport (SST)
Ground Effects Machines
V/STOL
Mutual Weapons Defense Program (MWDP)
TFX Development

*Section No. 6: Miscellaneous*

Miscellaneous Photographs
Blueprint Drawings
"Stack's Stuff:" Miscellaneous

*Charles F. Zimmerman Collection*

This eclectic collection of the papers of an aeronautical engineer with a long and varied career includes materials ranging from an early (1930s) "flying saucer" pancake aircraft and its fighter derivative, to the theory of relativity, to stand-on flying platforms. Zimmerman was a long-time employee of the NACA, a member of the

Space Task Group (the Project Mercury management team), an aircraft industry designer, an Army Aviation chief engineer, and a NACA Headquarters manager, among other accomplishments.

The Zimmerman papers are aeronautics oriented, emphasizing the areas of low-speed and VTOL performance; and they heavily document the development of his V-173 and XF5U-1 aircraft. The V-173, flown many times, was capable of very short take-offs and landings, and was flown by Charles Lindbergh. Derivatives conceived by Zimmerman would have had true VTOL capability. The XF5U-1, a Navy STOL fighter prototype was completely developed, but never flew. The collection is housed in three lateral file drawers.

### Floyd L. Thompson Technical Library

What also makes Langley Research Center an outstanding location for research in aeronautical history is the Floyd L. Thompson Technical Library. Besides holding major collections (more than 3.8 million volumes) in the physical sciences and engineering, with emphasis on aerospace science and technology, aeronautics, structures, materials, acoustics, energy, electronics, and the environment, supported by additional collections in physics, chemistry, mathematics, and management, the library also preserves the complete NACA publications series of 16,263 reports in 1,057 bound and 1,818 unbound volumes. These include Technical Reports (TR), Technical Notes (TN), Technical Memorandums (TM), Wartime Reports (WR), Aircraft Circulars (AC), Research Memorandums (RM), Advance Confidential Reports (ACR), Advance Restricted Reports (ARR), Confidential Bulletins (CB), Restricted Bulletins (RB), and Memorandum Reports (MR). [For an analysis of the NACA publications series, see Alex Roland, *Model Research: The National Advisory Committee for Aeronautics, 1915-1958*, NASA SP-4103 (Washington, DC. 1985), appendix 7].

What gives the library its unparalleled value as a place for historical research is the fact that its staff maintains the same index to aeronautical literature that was begun by the NACA in the 1920s. Cards reference tens of thousands of aeronautical papers from all over the world by subject, author, title, and, in the case of NACA reports and research authorizations, by number. Many of these papers are unpublished or classified. This makes the NACA card file one of this country's most treasured guides to aeronautical literature. The library is open to the public.

### Photographic Collection

Langley's NACA collection of photographs (housed separately from the library) comprises roughly 100,000 negatives, all logged by date and by subject. The current NASA collection exceeds 300,000.

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# HISTORICAL MATERIALS AT THE LEWIS RESEARCH CENTER

Mail: History Office, Mail Stop 60-1, Lewis Research Center, 21000 Brookpark Road, Cleveland, OH 44135 Library, Mail Stop 60-3

Location: Historical Collection, Building 60, Room 211; Library, Building 60, first floor

Hours: 8:00 a.m. to 4:30 p.m., Eastern Time Zone, Monday through Friday

Telephone: (216) 433-5785; FTS: 297-5785; Library, (216) 433-5762; FTS: 297-5762

Contact: Sheree L. Sievert, History Coordinator

### General Information

The History Office at Lewis Research Center is newly established and is still in the organizational stage. The collection includes general files on the history of Lewis, historical photographs filed by subject, a collection of NASA history publications, some administrative records and correspondence filed by subject, and other miscellaneous files. Lewis' records are currently kept at the Center's subsidiary, Plum Brook Station, located in Sandusky, Ohio. The only guide to this material at this time is a set of shelf lists maintained by the Records Management Office at Lewis. Some of the records from the 1940s through the 1960s, including speeches, lectures, correspondence, and reports, are being transferred to the National Archives and Records Administration.

### Lewis Library Vertical File

The Lewis Library has a small general file arranged alphabetically by subjects such as "Apollo," "Astronauts," and "NASA Centers." These files contain miscellaneous items, including reports, brochures, and newspaper clippings.

### Lewis Telephone Directories, 1942-present

This material is bound and arranged chronologically. Many of the directories contain organizational charts and maps as well as listings of personnel.

### Wing Tips, 1942-1958

The *Wing Tips* was a biweekly newspaper published for the employees of Lewis Research Center during the years of the National Advisory Committee for Aeronautics (NACA). The first issue was published on October 27, 1942, and the last issue on September 13, 1958. The Lewis Library holds a bound set of this series.

### Orbit, 1958-1962

*Wing Tips* was renamed *Orbit* when NASA was established. The first issue was published on September 30, 1958, and the last issue on January 12, 1962. The Lewis Library holds a bound set of this series.

### Lewis News, 1964-Present

After January 12, 1962, no employee newspaper was published until the first issue of the *Lewis News* on February 28, 1964. The Lewis Library holds volumes 1 to 24, covering the years 1964 to 1987. More recent volumes are housed at the *Lewis News* Office.

### Inspection Notebooks

The Lewis Library holds a bound collection of notebooks containing information about the NACA Inspections held at Lewis, Langley, and Ames from 1947 to 1966. The

notebooks include photographs, correspondence, speeches, scheduling information, lists of invitees, and newspaper clippings. The following Inspections are documented:

Lewis, October 8-10, 1947
Lewis, September 28-30, 1948
Langley, May 18-24, 1949
Lewis, September 20-22, 1949
Ames, July 10-12, 1950
Langley, May 18-25, 1951
Lewis, October 9-11, 1951
Ames, July 14-15, 1952
Langley, May 5-13, 1953
Lewis, June 2-4, 1954
Ames, June 27-28, 1955
Lewis 10 10 Supersonic Wind Tunnel Inspection, May 22, 1956
Lewis, October 7-10, 1957
Langley, May 18-19, 1964
Lewis, October 4-7, 1966

**Photographic, Motion Picture, and Video Collection**

The Lewis Research Center's still photographic collection consists of approximately 300,000 images dating from January 1941 through the present. This collection is logged and filed chronologically. All subjects are intermixed. However, there are several small collections which are filed separately, such as the Crash Fire Tests, the Atlas and Titan Centaur launches, and the original photographs of Lewis' construction. Plans are currently under way to transfer all photographic materials to optical disk.

The motion picture and video collection at Lewis consists of approximately 2,000 reels of data footage. These are logged and filed chronologically. There are also 300 motion picture and video productions. These are accessible through the Lewis Research Center's Motion Picture and Video Film Catalog, which is available by request. Lewis Research Center also houses the original motion picture footage (available in 16mm, 35mm, and 70mm) of the Atlas Centaur and Titan Centaur launches.

Lewis Research Center also has some 60,000 original pieces of graphic artwork filed and logged chronologically.

Plum Brook Station has a still photographic and motion picture collection consisting of several thousand images. These are filed and logged chronologically as well.

# 16

# HISTORICAL MATERIALS AT THE MARSHALL SPACE FLIGHT CENTER

Mail: History Office, CN22, Marshall Space Flight Center, AL 35812

Location: Building 4200, Room G6B

Hours: 8:00 a.m. to 4:30 p.m., Central Time Zone, Monday through Friday

Telephone: (205) 544-6840; FTS: 824-6840

Contact: Michael Wright, Historian

**General Information**

The holdings include approximately 7,000 historically important documents tracing the origin, development, and management of the center as well as its role in programs such as Saturn, Skylab, Lunar Roving Vehicle, Apollo-Soyuz Test Project, High Energy Astronomy Observatories, and Spacelab. A Special collection of documents and chronologies also traces the center's role in the Space Shuttle and Space Station Programs. A major portion of the historical documentation at Marshall has been reproduced on microfiche and coded on a computer in the Historian's Office. This material is available for use by researchers.

# 17

# HISTORICAL MATERIALS AT THE STENNIS SPACE CENTER

Mail: AAOO/History, Stennis Space Center, MS 39529-6000

Location: Building 1100, across from the Technical Library

Hours: 8:00 a.m. to 4:30 p.m., Central Time Zone, Monday through Friday

Telephone: (601) 688-2643; FTS: 494-2643

Contact: Mack Herring or Paulette Baham

### General Information

The staff of the two-year-old Stennis Space Center History Office concentrates its efforts on collecting and organizing information that documents the rich history of the installation. Using a computerized data base, materials are arranged and described according to standard archival practice and inventoried in a comprehensive guide that includes background information on the collection.

As the "corporate memory" of Stennis Space Center, the History Office maintains working historical files for managers, engineers, scientists, and other researchers of history. Presently, over 100 shelf feet of historical documentation fill manuscript boxes. The following is an abbreviated description of the materials available in the Stennis history collection.

### Historian's Source Files

These documents are from a variety of sources and have been deemed germane to the history of the Center. They are chronologically arranged under each heading and include several subseries such as Maps, Telephone Books, Historical Accounts, and Hurricanes.

### Apollo Collection

This series contains a broad range of documents and publications related to the U.S. effort to land a man on the moon, from the inception of Project Mercury in 1961 to the Apollo-Soyuz mission in 1975. It also includes information on other NASA programs that were initiated during this period. These files contain a wealth of information on Saturn rockets, and tests of Saturn stages that took place at the Center.

### Henry Auter Collection

Henry Auter was involved in the earliest days of the Mississippi Test Facility and worked as deputy manager of the installation through its transition to National Space Technology Laboratories, finally retiring in 1980. During 1975 and 1976 he served as acting manager of the installation. The documents cover key issues in which he was involved. The collection dates from early 1961 and ends with Auter's 1980 reading files. Included is a University of Southern Mississippi oral history interview completed in 1980 ad a file containing detailed biographical information.

### Biography Files

These files document biographical information on past and present personnel which includes civil service, contractor, and resident agency employees. While the bulk of the material in this series consists of printed materials, it extends back to the inception of the facility.

### Human Resources Files

These historical documents were collected by the Center Human Resources Office. They document the personnel and population history of the installation and surrounding communities.

### Lagniappe

The *Lagniappe* is the in-house newspaper of the Stennis Space Center. The collection beginning with the first issue in 1977 and extends to the most current. These newspapers are an excellent source for developing an overview of activities at the Center.

### Press Release Files

The bulk of this collection was gathered from the files of the Public Affairs Office, collected during the tenure of Mack R. Herring as Director of Public Affairs. The collection includes press releases from both the Stennis Space Center and from other agencies affiliated with the Center. This collection is an invaluable source of historical information on all aspects of the Stennis Space Center's history. It is especially useful for tracing events related to the creation of the installation, verification of dates of important events in the Center's history, and information on staff changes.

### Space Shuttle Mission Files

Primarily these documents are compiled to provide accurate accounts of launch dates mission objectives, and accomplishments. They provide an overall concept of the Shuttle's performance from outside sources.

### Summary

This is not the totality of resources that might illuminate the history of the Center. A larger amount awaits archival processing. Materials are added to the reference collection as processing is completed. Eventually, all unprocessed materials should become available.

In addition to its reference collection, the History Office provides reference services for the Center's management. It has overseen the research and writing of a narrative history of the Stennis Space Center, now in the final stages of editing and has recently completed a video documentary covering the 30 years of the Center's existence.

# APPENDIX

## NASA History Advisory Committee

## (past and current members)

Lloyd V. Berkner
Raymond Bisplinghoff
Daniel J. Boorstin
David Bushnell
Daniel P. Byrnes
James Lea Cate
Tom D. Crouch
Earl DeLong
Derek J. de Solla Price
A. Hunter Dupree
Sylvia Doughty Fries
Joe B. Frantz
Wood Gray
Richard P. Hallion
I.B. Holley, Jr.
Karl Hufbauer
Thomas P. Hughes
Laurence Kavenau
Richard S. Kirkendall
Sally G. Kohlstedt
Richard H. Kohn
Melvin Kranzberg
John M. Logsdon
Thomas K. McCraw
Howard E. McCurdy
Marvin W. McFarland
Everett I. Mendelsohn
Elting E. Morison
Louis Morton
Elizabeth A. Muenger
Robert P. Multauf
Arthur L. Norberg
Rodman Paul
Robert L. Perry
Carroll W. Pursell, Jr.
John B. Rae
Alex Roland
Nathan Rosenberg
Walter Rundell, Jr.
Merritt Roe Smith
Paul P. Van Riper
Walter G. Vincenti
Alan T. Waterman